The Boston Medical and Surgical Journal

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August 30, 1917

The Massachusetts Medical Society.

MEETING OF THE SECTION OF HOSPITAL ADMINISTRATION, JUNE 12, 1917.

THE CHAIRMAN, DR. HOMER GAGE, Worcester: This is the first year of the Section of Hospital Administration, and its existence is due largely to the work of Dr. E. A. Codman in the meetings of the Clinical Surgical Society, which has brought to our minds, perhaps more forcibly than ever before, the necessity of doing something to find out whether our hospitals are really doing the work they are intended to do, that we think they are doing.

We have taken it for granted for a long time that hospital work is being done just as we think it ought to be done, but we have never undertaken any real method of standardizing hospitals, or the work in the hospitals, or of following up the results of hospital treatment to find out whether the hospital treatment was accomplishing what it was intended to accomplish. Of course it is money thrown away if a patient comes to a hospital for medical or surgical treatment and pretty soon after leaving the hospital has to return for more or further treatment, and if that is being repeated it simply means we are wasting our hospital endowment; and with the enormous increase in the number of hospitals it becomes apparent that some work must be done to find out exactly how we stand, and what our results are. We must have some means of determining the character and success of the work which we are doing, and it is the outgrowth of that feeling that led to the establishment of this Section.

THE FOLLOW-UP SYSTEM.

BY CHANNING C. SIMMONS, M.D., BOSTON.

THE end-result and follow-up systems in use at certain of the hospitals at the present time is a comparatively new development and is a distinct step in progress in the keeping of hospital records. Certain of the larger hospitals have adopted the determination of the end results of their cases as a routine part of the record work, and it is done automatically, while many others in good standing have as yet made no provision for it. The end-result work, to determine the results of treatment of cases treated at the institution, is distinct from the follow-up work in use in out-patient clinics, notably in the children's and orthopedic departments, and it is of the former only that I shall speak. I have been interested in the work since it was first started at the Massachusetts General Hospital. I do not refer to groups of cases worked up by individual men, but of the work as part of the record system of a hospital under the charge of the librarian or custodian of the records.

To determine the result of treatment of a surgical case and post this result in the record is, without question, of distinct advantage to the hospital, the science of surgery, the surgeon who performed the operation,—showing him his successes and his mistakes,—and, above all, to

the patient. It completes the record of a case, and soon shows which operation, if there is a choice of two for a given condition, is the better, and whether one is better in one man's hands and a second in another's. It also allows the comparison of statistics of different men. I believe the personal equation comes in in surgery as much as in any other profession, and, although I believe in the efficiency propaganda, I think it can be overdone to the detriment of the patient; and when all is said, it is his condition we are trying to improve.

Mrs. Myers, the librarian of the Massachusetts General Hospital, made a trip last fall, visiting many of the larger hospitals in the country and studying their record systems, and I have been surprised in reading her report to learn how many of the larger hospitals in the country have no provision to determine the end results of the cases treated. I give below a list of nine hospitals, five of which are in Boston, that have some form of follow-up system, and the methods they employ. The end-result work is limited almost exclusively to the surgical cases, but I see no reason why it should not be extended to include some of the medical cases as well.

Massachusetts General Hospital. Letters are sent all surgical patients one year from the date of discharge, asking them to report at the hospital for examination, or write stating their present condition. If they report, they are examined in the accident room by the house surgeon. If there is no reply to the letter, nothing further is done, but if the letter is returned "unclaimed" a second is sent to a friend. In one year, as far as can be determined, about 75% of the cases were heard from, but in all probability in not over 60% was the information obtained by the hospital routine (2739 cases). The system is fair but far from perfect.

Peter Bent Brigham Hospital. A system similar to that at the Massachusetts General Hospital, and about as effective.

Collis P. Huntington Hospital. The end-result and follow-up work is in charge of a social worker, who does practically nothing else. For the three-year period, 1912-1914, 603 cases (95.6%) were followed. At present there are about 500 new cases a year.

Boston Dispensary. A very good follow-up system in charge of social workers. As this institution is practically only an out-patient clinic, there is little end-result work done (Howard[1]).

Carney Hospital. There is no provision for end-result as a part of the hospital routine. There is, however, a paid social worker following up the surgical cases, under the direction of Drs. Bottomley and MacAusland. She is developing an end-result system.

Presbyterian Hospital, New York. This hospital has, as far as I can determine, the best perfected end-result and follow-up system of any in the country. Carscaden[2] has described the system at length and says that for one year the results on 91.6% of the cases were determined (2278 cases). It is under the charge of a social worker.

New York Hospital. There is no end-result system maintained by the hospital. Dr. Gibson[3] has a system in force on his, the first surgical service, and Dr. Bancroft[4] a similar one on the second surgical service. Both of these systems are admirable and are in charge of social workers, but, as I understand it, are financed by the men themselves.

Michael Reese Hospital, Chicago. Letters are sent to all patients one year from the date of discharge, asking them to report for examination. The system is fair, but can be improved.

Mayo Clinic, Rochester, Minn. No regular system. If a surgeon wishes to follow up a group of cases, he is given the proper facilities, and the letter sent is passed on by a clinician, a surgeon, and a pathologist, to make sure all necessary questions are asked.

The above list is not intended as a full one of all the hospitals that have a follow-up system, but only to give a general idea of the methods employed.

The difficulties of the work vary as to the type of patients treated. In hospitals drawing patients from thickly settled districts, as the East Side of New York, it is fairly easy to trace cases and to get them to report for examination as, although they move often, they never move far from their original address. At the Massachusetts General Hospital, on the other hand, the patients come from all over the New England states, and it is difficult to get them to report, but as they are more intelligent than a foreign population and rarely move, they will usually answer a letter. Their friends are also easier to locate.

I believe that if the work is done properly and conscientiously, 90% of a group of surgical cases can be traced at the end of from three to five years. I personally have tried to determine the results in four groups of cases in the last ten years, and have been able to trace over 90% in each instance. These were as follows:

Cancer of the breast, 416 cases, 3 to 13 years after operation, 90.8% traced.

Cancer of the tongue, 112 cases, 3 to 8 years after operation, 93.7% traced.

Inguinal hernia, 162 cases, one year after operation, 93.8% traced.

Umbilical hernia, 70 cases, one to five years after operation, 91.5% traced.

These personal figures for cases at the Massachusetts General Hospital compare closely with those given for the Presbyterian and New York Hospitals, where the system is under the charge of a paid social worker and done automatically. It also shows that the class of patients makes very little difference.

At the Collis P. Huntington Hospital we have a social worker who does practically nothing else. She has developed a system of her own which, however, is applicable best to a small hospital of this type, averaging now about 500 patients a year. As this is a hospital for the treatment of malignant disease, no record is considered complete until the patient is dead from malignant or other disease. The figures for the three-year period, 1912-1914 (603 cases) are as follows:

Reported on account of letter sent	81	576 cases (95.4%)
Reported by letter	82	
Found to be dead	381	
Under regular observation	32	
Letters unanswered	16	27 cases
Letters returned unclaimed	11	

In establishing an end-result system there are certain points it is necessary to bear in mind in order that it should give the best results. In the first place, it is necessary to have the interest and active support of the visiting staff, not their passive acquiescence only. The staff must assist in the work and do all in their power to further it. If they do not like the methods the social worker or whoever else is in charge of the work employs, they should say so and do their best to correct errors, not grumble and find fault with the whole system. I think there is no question now that social service and allied work, properly supervised and administered, has come to be a recognized part of all well-organized hospitals. They must, however, work with and under the staff, not as two separate organizations under the same roof.

It is important the patient be told before his discharge that he will receive a letter asking him to report at a given time. It should be impressed on him that this is for his good, and that the doctors take an interest in him. Unless this is done many will pay no attention to letters, as they think the hospital is dunning them for an unpaid bill.

Time to Report. The ideal method is to have each case judged by itself, and told to report at a time deemed proper for that case. Three months is a good unit of time for most cases. Many will be well at the end of that time, and it will not be necessary to see them again. On the other hand, cases of carcinoma should be kept under observation for several years, and should report regularly every three to six months.

Examination. All cases, if possible, should be seen by the surgeon operating upon them, as he knows the case better than anyone else, and can see the results of his work, good or bad. If he cannot see them, someone having good judgment, in authority, and interested, should be delegated to the work—not a house officer.

It is of assistance to have the record, or a good abstract, in the examining room at the time the patient reports, as it is impossible to carry all the data in regard to a given case in one's head. After examination I believe all notes should be made in the record itself and signed. If more convenient for handling, the notes may also be made on a separate card similar to that advocated by Dr. Codman.[5, 6]

Suggestion for Establishing an End-Result System.—I believe all hospitals should have end-result reports on all cases, but the actual details of the system must depend, to some extent, on local conditions. I shall refer those interested to the articles already cited, rather than go into the details of a system. The hospitals that have adopted this work all have very much the same routine, although that at the Presbyterian, in New York, is probably the most perfected.

There are certain general suggestions which, if carried out, will make the work easier. The admission card of every patient should have the address of two friends, one of whom has a permanent address, as well as of the patient. If the patient is a woman, her Christian name, as well as that of her husband, should be obtained. It is also well to note the address of the physician or person recommending the case. Care should be taken to spell foreign names correctly.

The work should be under the control of the librarian or custodian of the records. It should be automatic and in charge of a full-time social worker, or similar trained person, and not left to a stenographer or ordinary clerk. It should take the full time of one person and part time of a second to do the work of a hospital having a discharge list of from 3000 to 4000 a year, but one of these only need be trained.

The worker should see each patient at the time of his discharge, and give him a card asking him to report at a given date, or explain to him, he will receive a letter about that date. At the time the patient is to report she should have the record in the examining room, and should also notify the surgeon. With a visible index file, the worker can easily keep track of the cases. If possible, the patients should be given the opportunity to report on an evening or Sunday, as to many, reporting in the daytime means giving up a half day's work. At the Massachusetts General Hospital the patients receive a letter asking them to report one year from the date of discharge, and this year I have notified patients I operated upon a year ago I would see them personally if they reported Sunday morning. From 5 to 12 report each week. If they report week days they are seen by the house officer in charge of the accident room. At the New York and Presbyterian Hospitals the staff meet once a week, see the cases operated on previously who are reporting, and discuss the work of the service. This is an ideal proceeding, but almost impossible of attainment.

If patients do not report, and do not reply to letters in a reasonable time, the worker should

try the various methods used to trace cases. In 1912 I published a short paper[7] giving the methods I had found useful in tracing a given case. These suggestions are applicable, particularly to Massachusetts hospitals.

1. If there is no reply to letters sent, the worker should call at the patient's residence, and if he has moved make inquiries of the neighbors, laying stress on the fact that she is not a bill collector, but wishes to ascertain his health.

2. Write to the friends and physician.

3. Look up the patient or friends in the telephone book or in the local directory of the town in which they live, following them through year after year, till the change in address is found. (Directories of all towns in the state are in the office of the State Board of Charities in the State House.)

4. In cases of malignant disease, go through the files of deaths in the bureau of vital statistics at the State House, to rule out patients dead. (If you give the clerk a list of the correct names of the patients with the age and address and the probable date and cause of death, she will usually do this for you.)

5. If the patient comes from a small town, write to the postmaster or town clerk. They can usually give you some information.

6. Write to the state boards of health at the capitals of the New England states, inquiring if the patient died in that state.

7. The police will sometimes give you information if you tell them why you want it.

8. If you believe a patient with cancer to be living, but can get no reply to a letter, send him a registered letter. You will get his signature any way.

9. The Confidential Exchange of the Associated Charities has a record of many of the poorer cases.

10. Make all letters polite and personal. You are much more apt to get answers than if a "Neostyle" letter is sent.

There are many other methods of tracing cases that suggest themselves as one does this work.

I hope in the near future to see more of the leading hospitals adopt some form of end-result records and also to see the work done on the medical as well as the surgical cases, to which it is limited at present.

REFERENCES.

[1] Howard, A. A.: Jour. Am. Med. Assoc., 1915, Vol. lxv, p. 1962.
[2] Carscaden: Jour. Am. Med. Assoc., 1916, Vol. lxvi, p. 802.
[3] Gibson: Annals of Surgery, September, 1916.
[4] Bancroft: Johns Hopkins Hosp. Bull., 1916, Vol. xxvii, p. 201.
[5] Codman: Surg., Gyn. and Obst., January, 1914.
[6] Codman: Report of the second two years of the Codman Hospital.
[7] Simmons: BOSTON MEDICAL AND SURGICAL JOURNAL, 1912, Vol. clxvii, p. 54.

DISCUSSION.

THE CHAIRMAN: This is an important paper of Dr. Simmons, and very suggestive. There is one other means of looking up patients that has come to my notice lately, and it is in connection with what is really one of the most important works, medically, undertaken for a good many years. It is being undertaken at the Mayo Clinic, at the suggestion and practically by the request of the Medical Directors' Life Insurance Association, to try to get at what are the real results of operations. Dr. Charles Mayo read a paper before that Association in New York in October of last year on the relation of gall-bladder surgery to life insurance that was a little disappointing, and the disappointment was expressed simply because it did not give figures; it gave impressions only. It gave figures of the immediate successes or failures, but that was all.

As a result of that discussion, Dr. Mayo stated that they would be very glad indeed to extend the facilities of their records to the Medical Directors' Association, to determine according to actuarial methods exactly what the results were and to translate these into insurance language. That invitation was accepted, and the actuary of the New York Life Insurance Company went out there and they started an investigation on three lines: on the line of gall-bladder operations, on operations on gastric and duodenal ulcers, and on thyroids. Such knowledge is of such great importance to the insurance companies that they have said if, after these records are gone over carefully and everybody found out who can be found out by personal solicitation or by writing to friends, the list of those who cannot be found out be given to them, that the matter will be treated confidentially and the patients will be carefully looked up by their inspection systems. They believe that then they can get as good results as Dr. Simmons says he is getting when he puts his personal attention on the matter.

To my mind, the results of these investigations ought to be of immense importance. We have got a start in this work of Mayo's under very favorable conditions. It is more than the follow-up system; it is pretty nearly the end result of each case, and is going to show the mortality statistics in these cases—not necessarily the mortality due to the particular condition for which they entered the hospital, but its relation to their natural expectation of life; and all of these things are most interesting.

One other thing, about having these cases report on Sunday. At the Presbyterian Hospital the three surgeons at the head of the surgical division alternate in attendance on Sundays—first one is on duty and then the next, and so on. I endorse this plan. Someone of the visiting surgeons is there every Sunday morning, and the patients are requested to report at that time. This is of special importance in a large metropolitan hospital, where many of the cases cannot come at any other time.

Dr. Simmons' paper is open for discussion or suggestions.

DR. P. E. TRUESDALE, Fall River: I would like to ask what the Massachusetts General Hospital will do, for instance, when its new private ward is established? Will the blanks or inquiries be sent to the doctors or directly to the patients?

DR. SIMMONS, Boston: I personally could not answer that. I should suppose it would be regarded as a private hospital.

DR. J. B. HOWLAND, Boston: I should assume that these were private patients, and the doctors will do as they please with them.

Dr. Truesdale: What is the method at the Peter Bent Brigham Hospital?

Dr. Simmons: Letters are sent at the end of one year, and a second letter is sent if the first remains unanswered.

Dr. Truesdale: Are the letters sent to the patients or their physicians?

Dr. Simmons: To the patients. If the surgeon is interested in a certain line of cases letters may be sent also afterwards to the physicians.

Dr. Homer Gage, Worcester: I don't see why that method should not be followed out the same as followed in private practice, the same as I follow it in mine. I write the first letter to the patient and if I get no reply I write to the doctor from whom that patient was referred to me, or to the doctor who was connected with the case. Failing in that, I try to find if I have a record of some friend, and if it is a case in the hospital I have a record. In that way I am just getting together over 90% of the results of operations performed between 1898 and 1915.

I have been engaged in that sort of work for some time, and have never yet received a discourteous reply, nor have I ever heard of anyone who has.

Uniformity in Hospital Morbidity Reports.

By E. A. Codman, M.D., Boston.

What is the object of publishing morbidity tables and lists of operations in hospital reports? I have asked this question of several prominent physicians and surgeons, and also of a number of hospital superintendents. There is always a vagueness in the reply. The answers, boiled down to their simplest form, amount to this: To supply to those interested, information as to the kind of cases we treat, the kinds of operations we do, and the mortality from both disease and operation. When I ask, "Who are the persons who are interested in such matters?" the answers are still more vague. They show optimism that possibly hospital superintendents, trustees, subscribers, physicians and surgeons, boards of health, and statisticians may find some light therein. Practically they admit that very few, if any, laymen or doctors study or use these reports in any but the most general way. The Committee of the Council of the Massachusetts Medical Society, who studied this question last year, reported that: "Some idea of the relative frequency of diseases and injuries in a given community, and the immediate hospital mortality, are all that can be gained from the best of the hospital reports as at present prepared."

The truth is, that each hospital publishes these statistics as a sort of boast that it is doing something; the tables look well in a report, and impress the trustees and subscribers; otherwise than this they are not used by anybody. Anyone who might wish to use them knows that they are too inaccurate and too diverse in plan and method of classification to be of service either for comparison one with another, or for large statistics made by adding them one to another.

In order to give some idea of the variety of methods of classification used by the hospitals of Massachusetts, I have been over the reports of all the incorporated charitable hospitals. I find that scarcely two are exactly alike. All sorts of methods are used. Sometimes one even finds different methods used in the same hospital. Thus in the Boston City Hospital, medical diseases are classified by systems with subdivisions of pathology; surgical diseases are classified anatomically, with pathologic and systemic subdivisions. The skin cases are classified alphabetically, and some of the other departments have still further variations. I defy anybody to distinguish any general plan in the different classifications in the Children's Hospital report. I have made some lists showing in a general way what hospitals adhere to each of various forms of classification.

Those Arranged under Systems,—Pathologic or Anatomic Subdivisions.

Sturdy Memorial Hospital, Attleboro.
Beverly Hospital.
Boston City Hospital.
Children's Hospital.
Faulkner Hospital.
Deaconess Hospital.
New England Hospital.
Brockton Hospital.
Union Hospital—Fall River.
Lowell General.
St. John's Hospital—Lowell.
Malden Hospital.
St. Luke"s Hospital—New Bedford.
Newton Hospital.
Wesson Memorial Hospital—Springfield.
Hampden Hospital.

Those of Mixed Nomenclature, More or Less Arbitrary, with Anatomic, Pathologic, Age, Sex or Conditions Subdivisions.

Cambridge Hospital.
Children's Hospital.
House of the Good Samaritan.
Infants' Hospital.
New England Hospital.
Massachusetts Homeopathic Hospital.
St. Ann's Hospital—Fall River.
Hale Hospital—Haverhill.
Newburyport Homeopathic Hospital.
Cooley Dickinson Hospital—Northampton.

Those Arranged Alphabetically, According to Pathology, Diagnosis, Anatomy, or a Mixture of These.

Boston Floating Hospital.
Massachusetts Homeopathic Hospital.
Peter Bent Brigham Hospital.
Clinton Hospital.
Framingham Hospital.
Heywood Hospital—Gardner.
Addison Gilbert Hospital—Gloucester.
Public Hospital—Greenfield.
Hale Hospital—Haverhill.
Holyoke City Hospital.
House of Providence Hospital—Holyoke.
Lawrence General Hospital.
St. John's Hospital—Lowell.
Ludlow Hospital.
Lynn Hospital.
Melrose Hospital.

Medford Hospital.
Anna Jaques Hospital—Newburyport.
North Adams Hospital.
Hillcrest Hospital—Pittsfield.
House of Mercy Hospital.
Jordan Hospital—Plymouth.
City Hospital of Quincy.
Salem Hospital.
Children's Island Sanitarium.
Somerville Hospital.
Mercy Hospital—Springfield.
Waltham Hospital.
Noble Hospital—Westfield.
St. Vincent Hospital—Worcester.
Worcester Hahnemann.

THOSE ARRANGED BY ARBITRARY SECTIONS MODIFIED FROM THE INTERNATIONAL.

Hale Hospital—Haverhill.
Eye and Ear Infirmary.
Massachusetts General Hospital.

THOSE THAT TRY TO COMBINE THE DIAGNOSIS AND OPERATION.

Carney Hospital.
Peter Bent Brigham Hospital.
Free Hospital for Women.
Clinton Hospital.
Burbank Hospital—Worcester.

THOSE ARRANGED ON INDIVIDUAL OR ORIGINAL PLANS.

The Waltham Baby Hospital.

This hospital, although it has very few cases in numbers, gives us a good example by listing the case number, diagnosis and result on the same line. Such a report could not be made unless the hospital were making an effort at efficiency, for the cases must be listed by consecutive numbers, must be diagnosed, the result noted, and made public in the report. If every hospital in the State followed the example of this little hospital, the reports would be of far more value than they are at present.

The Memorial Hospital of Worcester.

Such a report could not be made unless the staff were diagnosing their cases and grouping them, analyzing them, and making an effort to increase the efficiency of their treatment. It illustrates the possibility of using a double classification,—pathologic on the horizontal and anatomic on the vertical. It suggests that the chart from which the final statement is made, must be as good as a card index to the diagnoses. It is practical, and can be run by an intelligent clerk, if the staff coöperate.

The Codman Hospital.

In this report I have carried to the limit the following points, which I believe to be of fundamental importance.

1. Publicity. In each case under consecutive and permanent numbers an abstract is given of diagnosis, treatment, complications and immediate result.

2. End Result. Each case has been followed, if practicable, and an annual note made until death.

3. Classification. A detailed classification of diagnosis is given on the principle of the variable, using the Clinical Congress chart.

4. Index. The use of the classification as a practical index to every diagnosis is shown.

5. Efficiency analysis. A practical example is given of my own errors in diagnosis, judgment and skill, and the conclusions from a study of the analysis.

6. Professional ethics. A practical example of my own moral (or immoral) attitude in accepting for treatment a great variety of serious cases, is given to illustrate clearly how custom is the criterion of our professional morality.

7. Finance related to object of institution. A financial report illustrating how charitable hospitals, when run as competitive business institutions, may defeat their own object.

If single-handed I can do the professional work for 270 cases, record them, classify them, analyze them, trace their results, moralize over them (and still make a living), then it is clear that 10 men could do the same by 2700, which is a much larger number of cases, and smaller number of staff appointments than most hospitals have.

I think I have offered sufficient evidence to show: 1. That there is no uniformity at present in the reports of our hospitals. 2. That the hospitals are willing to spend time and money in making reports, even if they are not read or used. 3. That there is a great diversity of opinion as to the best form in which to present such reports. 4. That the energy, labor, expense and thought which are expended on making these reports is largely wasted, if not entirely misdirected.

The object of this paper is to suggest a method whereby this energy, labor, money and thought may be utilized. My suggestion is to make these hospital reports serve three distinct purposes.

The first is statistical or scientific. The second is a measure of efficiency. The third is to replace or reënforce a card index system to individual cases.

THE STATISTICAL AND SCIENTIFIC VALUE OF HOSPITAL REPORTS.

I think there can be no question that if all our hospitals had a uniform report, no matter how simple it was, that the added figures would form statistical and scientific data of value. For instance, if each hospital published a morbidity report which simply stated two headings,—one, Malignant Disease, and the other, All Other Pathologic Conditions,—that even this brief statement would be important. If we made five headings,—Malignant Conditions, Inflammatory Conditions, Tuberculous Conditions, Traumatic Conditions, All Other Conditions,—it would be even more valuable. I think that every one would admit that such a simple report, if given uniformly by every hospital, would be of far greater value than the elaborate reports on which our hospitals spend so much labor and money at present.

THE VALUE OF MORBIDITY REPORTS AS MEASURES OF EFFICIENCY.

No hospital can give efficient treatment to its cases, unless it knows the diagnoses of the conditions from which the patients suffer. To form a clear idea of the conditions for which we are treating the patient, is one of the most necessary steps in modern practice. The hospital which insists that this diagnosis of the condition is set down in black and white, has made one important step towards practical efficiency. Can we not use the morbidity report as a proof that

diagnoses have been made and recorded? This proof will be immensely strengthened if each diagnosis is followed by a list of case numbers, so that those authorized or interested may refer to the detail of any case in question.

THE VALUE OF A MORBIDITY REPORT WHEN USED AS AN INDEX.

Let us suppose that a small hospital treats only 100 cases a year, and that each of these cases receives a consecutive number. Suppose that 25 of these cases had some form of cancer. The report at the end of the year might divide all their diagnoses into "Malignant Conditions" and "Other Conditions." Following the words "Malignant Conditions" would follow the individual numbers of the cases. Following the words "Other Conditions" would come the individual numbers of all the other cases. Suppose one of the staff wished to review all the cases of cancer of the breast. He would merely have to look through twenty-five numbers to find all the cases of cancer of the breast. This would be considerably easier than looking through the whole hundred numbers, but the same simple division applies to cancer of any other organ. It would be just as easy for him to look up cancer of the uterus. Vice versa, if he wished to look up tuberculosis of the wrist, he would have to look through seventy-five numbers, but he would have to look through only seventy-five numbers for any other diagnosis. What earthly use could there be for a hospital which has 100 cases a year to subdivide any further?

But suppose a hospital which ran 1000 cases a year. In such a hospital there might be 250 cases of malignant disease. In this case it would be more convenient to have six subheadings under Malignant Disease, with the number of each case following. The trouble which the investigator would encounter would be no more than he would encounter in the small hospital; he would have to pick out the cases he wanted from only twenty-five numbers. Suppose the hospital treated 10,000 cases. There would be 2500 cases of malignant disease which could be still further subdivided, so that each group would contain twenty-five or less, unless more than twenty-five occurred under some definite, clearly defined subheading—such as cancer of the breast; in which case the investigator would have no trouble at all in going direct to his records.

I wish I had the time, and you had the interest to hear a discussion of the relative merits of the different forms of classification which at present exist in Massachusetts. No doubt each has its merits, and each is sanctioned by the custom in the local hospital. In my opinion, by far the best is that used at the Memorial Hospital in Worcester. I wish that we might all copy that method, so that it would be at least uniform. Anyone who has studied the morbidity report of the Memorial Hospital will be convinced that such a report could not be made unless its staff were making an effort at scientific, statistical accuracy, at clinical efficiency, and at permanent scientific records, practically and carefully indexed.

I should like to make the following suggestions to the hospitals of Massachusetts:

1. Begin the new year with a new set of numbers, assigning these numbers consecutively to each house patient. Let each patient keep the same number, no matter how many times he returns, whether he reënters with the same or different diagnoses.

2. Let each hospital keep a chart on which the diagnoses are in two divisions,—"Malignant Disease" and "Other Pathologic Conditions." At the time of the discharge of each patient, record on this chart the number of each patient under the appropriate heading.

3. Let each hospital, when it issues the annual report in 1919, publish a simple statement, giving the total sum of all the diagnoses reported under "Malignant Disease" and "Other Pathologic Conditions."

4. Let each hospital appoint a member of its staff to meet with the other appointees of all other hospitals which adopt this suggestion, and then this group can formulate further subdivision of diagnoses for future reports.

If these simple suggestions meet with favor, by 1920 the hospitals of Massachusetts will have before them a simple method of proving to their trustees, staff and subscribers that they are making an effort at accuracy, efficiency and scientific record. The morbidity statistics which would be gained by the sum of these reports in 1920 would be an example to the whole world.

This plan requires some effort, because it is new, but the total effort, labor and expense would be far less than what we expend at present, and for which we get no real return.

What a pity it is that this subject is so uninteresting! Here we have a chance to get together on something which would help us all and generations after us.

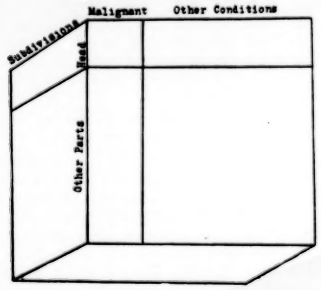
A more elaborate discussion of this plan from my own point of view will appear in a paper which I gave before the surgical section of the American Medical Association on June 7, and also in the forthcoming report of my own hospital.

EXPLANATION OF FIGURE.

By the use of three dimensions this system may be used in the smallest as well as in the largest hospitals. For small numbers of cases it may be linear, for larger numbers it may be rectangular, and as a cube it will provide for infinite numbers.

If some large medical society, like the American Medical Association or the American College of Surgeons, should recommend its universal use, a standard card index cabinet could be made, and sold at cost to all hospitals.

Each card would contain only the name of a sub-



BASIC PLAN OF A CARD CATALOGUE CABINET FOR STANDARD HOSPITAL USE.

A suggestion for a system of classification and case reference index of diseases, based on the principle of the variable increasing toward its limit, and which acknowledges that the finite is infinitely imperfect, but believes that the infinite may be made finitely perfect.

Consecutive and permanent case numbers are essential. Begin a new series on January 1, 1918.

NOTE.—With this figure the chart recommended by the Clinical Congress of Surgeons was shown. It is an amplification of the above basic plan. It is not reprinted here on account of the expense, but copies may be had by applying to Dr. E. A. Codman, 15 Pinckney St., Boston. The following explanation refers to both this figure and the chart.

division, followed by the numbers of the cases in which this diagnosis was made.

By the use of such a system a large hospital would have a practical, immediate index to all its cases, as easy to use as that of a book. Besides being an index and a scientific classification, it would be an up-to-date statistical table of each disease, class of disease or anatomic regions affected by individual diseases. Besides these advantages, it would be of great assistance in efficiency studies and an incentive toward accurate, careful work for the coming generation.

It is better than the International List, the Bellevue Classification, the Lambert Classification or any other present classification, because its subdivisions are scientific, not arbitrary, and because it is not dependent on a nomenclature, or on our present-day knowledge.

Take cystic disease of the breast, for instance, which has a multitude of names. Whatever we call it, it must appear under "Breast," and the only question is under which pathologic heading to place it. A single cyst might be considered a new growth and so classified. But if our future pathologic advance shows that such new growths are really chronic inflammatory conditions, we have merely to transfer the numbers to the chronic inflammatory division. We must admit that our pathologic knowledge is infinitely imperfect, but to use what we have is better than using mere names. Thus whatever language we speak, and whichever term we prefer for cystic disease of the breast, we shall all know what we mean by each other's names. Rather than discuss names, let us agree to spend our energy on investigations to determine whether the condition is inflammatory, neoplastic or degenerative, and admit that we do not yet know. If we have no opinion, we can put it under "other conditions" and transfer it later when we find the truth. Thus by not using names our chart is made elastic.

This method of classification has one "practical" disadvantage. It cannot be wholly in charge of a non-professional clerk. My answer to this is that it should not be. It is too fundamental and important, and needs the attention of the chiefs of staff or some subordinate who is delegated to this work, because better fitted for it than the chief of staff.

To the chief of staff it should be of the utmost importance to know that he has an accurate index which will enable him to find at once the records of any particular group of cases. He should be constantly reviewing such groups and assigning the unsatisfactory ones to his subordinates for study.

But unless we use a merit system of promotion instead of a seniority system, there will be no incentive for clinical accuracy. *The struggle for existence must be utilized to give the truthful and efficient an opportunity to survive.* Like the individuals in the coral reef, each must be made to add his bit to the advance of clinical science.

DISCUSSION.

THE CHAIRMAN: I happened to be a member of that committee of the Council which looked up the matter of hospital reports in Massachusetts, and we found that almost every hospital in Massachusetts made a report, but that no two of them agreed on the way that report was to be made up. Everyone that replied to our inquiry, I think, exhibited a willingness to cooperate, especially if the plan could be shown to be economical—and there is no question but what this plan is economical. It is much more economical than the present plan, which involves not only a great deal of labor, but much paper, etc.

DR. CODMAN: If there is a little time, I should like to show something I have brought. The Harvard Medical School in China, which has a hospital combined with the Red Cross until recently, was the only hospital which followed the plan which I suggested in its entirety and rendered a report similar to my own report, so that I could get a direct comparison between their work and mine. The work there was done by Dr. Hedblom, formerly a house officer of the Massachusetts General, and now at the Mayo Clinic. By taking these two charts I can show any of you who are interested that it is possible to compare my cases and their end-results individually or statistically with those of that hospital in China.

You can get a general idea of these two charts. They are on the same principle. Each one of these little rectangles contains the case numbers of the diagnoses which he made in China and which I made here. This is Dr. Hedblom's chart and this is mine. The cases, for instance, of malignant diseases of the neck in my chart were four and in his were six. If I wanted to look up some particular form of malignant disease of the neck, all I would have to do is to look in his reports at his six numbers and in mine at four. No matter what diagnosis you mention, I can find it in both charts if an instance of that disease has occurred. It may be such an unusual condition that it has no name, but it would be filed anatomically and pathologically in the proper place.

DR. SAMUEL B. WOODWARD, Worcester: How does your system compare with that of the Memorial Hospital in Worcester?

DR. CODMAN: It is much the same. The way the subdivisions are made is immaterial. I gave my best thought to this for months, and my subdivisions vary but little from Dr. Gage's in Worcester, perhaps because the natural processes of the human mind are similar. Practically you could use the Memorial Hospital chart to compare with mine, although some of the subdivisions are different.

THE CHAIRMAN: The next paper will be on "The Standardization of Hospitals," by Mr. John G. Bowman.

You will remember that several years ago the Carnegie Foundation investigated the medical schools of the country, and it was stated by many at the start that the investigation would not result in any practical benefit and that there was a question as to whether a proper comparison could be made. Some thought it was useless; but a great deal of good has come out of the investigation, in the elimination of inconstant schools, schools that were poorly equipped, and schools that were doing poor work. The natural suggestion following that is to see what we could do in the same way in the investigation of hospitals throughout the country, classifying them A, B, C or D, as the medical schools were classified. A great deal of preliminary work has been done along that line, and Mr. Bowman is the man in charge of it.

THE STANDARDIZATION OF HOSPITALS.*

BY JOHN G. BOWMAN, CHICAGO,

Director, American College of Surgeons, Chicago.

We are in the midst of a world war and are much "tumbled up and down" in our minds. We are also at the beginning of a new era of hospital advancement, and these facts are all closely related. The history of hospitals is a series of waves of advancement, each stimulated by war. Today service and ideals of service will win or lose the greatest contest in history; and what this service means is being hammered into every man, woman, and child in this country. This fact is a benefit of war. And it follows now, as never before in history, that any hospital which is to survive must serve. It must be fair, it must be honest, it must be unselfish, it must be competent. The requirements are a big order to fill.

The impetus of service, which is in the air we breathe today, promises almost a revolution among hospitals. That revolution is already under way, and its further progress is inevitable.

In order to look forward with some intelligence, let us for a moment look backward. About ten years ago the condition of our medical schools was brought sharply to review. We took stock of ourselves. We realized with new force that a medical school is a public institution and that its mission is service. We found when tested by this conception that many established practices of the schools must stop short. For example, it not infrequently happened that when a chair of surgery fell vacant, the chair would be sold practically at auction to a surgeon. The price sometimes went as high as $10,000. The successful bidder then took up his trust, not to teach with a true ideal of service, but rather to impress his students with his own attainments. Students, according to his dictates, were not to attempt independent surgery; they were to send their cases to the professor of surgery, and the professor would "treat them right." As for the rest of the course, it was didactic. There was very little laboratory work, and a minimum of the ideal of service which characterizes any real profession.

Again, in one city there were a number of rival medical schools such as these, each with its so-called "runner." Part of the duty of this individual was to get up early in the morning and to meet workmen who looked as though they might be students,—a plumber, perhaps, going to work with his kit under his arm. The "runner" would say to him: "My boy, you are in wrong. You are doing hard work with small pay. Take a course in our medical school and in a couple of winters you will be socially in a better class, and you can make much more money for less work. It's all easy." This appealed to the boy. He would drop his kit and start off for the medical school. After a few winters this boy would enter the medical profession with little conception of what a profession means; he was merely in another trade or "game."

In less than ten years this type of medical school has disappeared in this country. Scores of such schools closed their doors. We have made headway. To maintain a medical school today "for profit" is unthinkable; and in my opinion no intelligent community would tolerate such an effort in its midst.

Comes now from a number of directions a similar questioning into the function of hospitals and of their performance. The questions are many and pertinent; and they spring from good motives. But what will be the result?

In talking on this subject let us not consider that hospital standardization means the making of hospitals alike. Each hospital should be given full play of individualism to render such services as best fulfil the needs of its community. What nonsense, for example, it would be to ask of Harvard University and the University of Virginia to standardize themselves according to a single mould! These institutions grew up out of different conditions, tempers, and demands. Both are rendering priceless services to their communities, and the very individualism of each is a telling factor in its success. In a similar fashion there is place for individualism among hospitals. There are only certain fundamental principles on which we may wisely insist, such as, for example, that the procedure in any department be guided by high professional training and integrity.

* Stenographic report condensed.

Let me explain concretely this last statement. About four or five weeks ago on the Pacific Coast I visited a hospital of about 300 beds. Practically every bed in the building was occupied. The construction was beautiful, expensive, and adequate. But what about the integrity of the institution toward the patient? There was not in that building a microscope or anything that could by streteh of the imagination be called a laboratory. There was not an interne nor a house physician. There was not a case record of any kind. There was an odd x-ray machine, but no one knew how to operate it. They hoped to have a laboratory by and by. The superficial evidence at least was not such as to inspire confidence.

You know what the medical and surgical procedure must be in such a hospital. Surgery without adequate diagnoses, and medicine which bears too close a likeness to sheer guess-work, are inevitable. Nor are the conditions just described exceptional; they are usual over a large part of this country. And the time is arrived when we must take the facts home to ourselves, stop all footless discussion, and act.

What are some of the first things that we have, then, to do? First, the facts with regard to the efficiency of the hospital, and the meaning of these facts in relation to the welfare of patients, must be brought home to the boards of trustees or the governing authorities, whatever they may be. The inidvidual trustee must feel his responsibility; he must realize keenly his position of trust. The hospital is a public institution, no matter who owns it, and it is accountable to the public for the character of its work. A great majority of hospital trustees, in my opinion, have only a hazy idea of what their trusteeships mean. For example, if in one hospital in a community there is a mortality of 18% among appendiceitis cases, and in another hospital a mortality of 3% among similar cases, the time has come for many pertinent questions. Do the trustees ask the questions? Has the public a right to ask questions? If you were to be operated upon for appendiceitis in that community, would you ask questions?

But to come closer to the situation: what steps may the board take toward honest, competent service? The first answer to the question is that the board may withdraw the privileges of hospital from any doctor who divides fees. This subject is not a pleasing one to talk about. The practice of division of fees is a disgrace to the profession; it is a national disgrace. It means invariably operations performed by incompetent men; it means unnecessary operations, and it means the lowering of the entire profession into a mire of dishonesty. The subject does not need elaboration here.

In about fifteen states of the Union today the practice of division of fees is prohibited by law. The penalty provided is usually to revoke the doctor's license and to impose a fine or a term in prison, or both. Copies of these laws are now framed and hung in conspicuous places in some hospitals. Certainly in all hospitals, the boards of trustees can take effective means to put an end to the practice in their respective hospitals. Any board is unworthy of its trust which does not squarely meet the issue.

A second leading consideration for the board of trustees is the adequacy of the diagnoses. And this subject leads us at once to the hospital laboratory. Where are the essential physical findings to be made if not in the hospital laboratory? Let me ask you frankly what percentage of surgical operations are performed in hospitals after all data which might throw light upon the illness of the patients have been obtained? In a local medical society recently a surgeon ventured the opinion that not in more than 20% of the surgical cases were adequate diagnoses made. Now what are the facts in each of your hospitals? What are you doing in the way of progress for better conditions? What are your boards doing? What will the public do when it comes to realize fully the vast unnecessary mortality because of negligence of right procedure?

But the acquisition of data in connection with diagnoses is only part of the function of a hospital laboratory. The laboratory serves also as a source of scientific incentive. It is a chief means to keep the physicians and surgeons of a community in line with the swift progress of medicine; and the value of such an influence is a thing which no community can overestimate.

In passing this subject let me make this suggestion: It is that no surgical operation be permitted in your hospitals unless a diagnosis in each case is posted in the operating room in advance of the operation. This diagnosis, then, is to become part of the permanent case record; and before the surgeon leaves the operating room he should dictate an exact statement of the findings and what happened at the operation, which statement is to become also part of the permanent case record.

Now a third consideration,—the keeping of case records. The keeping of complete records is not merely nice bookkeeping. It is a pledge of integrity to the public. It is one of the strongest means at the command of the profession to acquire that position of confidence in our social fabric to which it is entitled. There can be only one science of medicine; and it is the business of that science from time to time to give to the public, in accurate and intelligible form, the results of its work. Further, you in the medical profession should insist that all others who claim to treat or cure human illness, publish accurate and intelligible reports of their work. When such procedure is usual among us, all of the curious mysticism now associated with medicine will disappear, and the barometer of confidence in the profession will rise to an inspiring figure. Dr. Codman has presented an

admirable paper on this subject here this afternoon, and most heartily I wish to endorse his contention.

There are many other subjects which we might discuss this afternoon in connection with hospital standardization. The training of internes and of nurses, financial problems, equipment, etc., are among these. But time here permits only a general survey.

The American College of Surgeons has undertaken with great seriousness a standardization of hospitals in the United States and Canada. Many years and expenditure of much money and effort will be required before telling results are obtained. But to start with, the college asks the good will and coöperation of the hospitals and of medical schools. It asks that, with the highest medical patriotism in us, we band together for the better welfare of those who are ill. The motive is not to criticize for the sake of criticism, nor to destroy, but rather to construct, to lead in a progress of heart and hands and head such as is yet unrecorded in the history of medicine.

DISCUSSION.

Dr. Michael F. Fallon, Worcester: Can you tell us what states, if any, have provision for the standardization and supervision of hospitals?

Mr. Bowman: The State of Pennsylvania has unquestionably taken the lead in this matter. Hospitals coming up to a given standard are allowed some subsidy from the state, according to the number of beds. Under the guidance especially of Dr. Baldy, the state has made great headway toward better conditions. New Jersey and Minnesota are also giving the subject increasing attention.

Dr. Lester Newman, San Francisco: In speaking of the Pacific Coast I would like to ask Mr. Bowman what individual city he has reference to. We have several cities there, as you have on the Atlantic Coast. It would be unfair to speak of the Atlantic Coast as Baltimore, or Boston, or even New York. To speak of the Pacific Coast is just as comprehensive a statement.

Mr. Bowman: Let me say, first, that in San Francisco, Portland, and Vancouver (I do not know about Los Angeles), there are very well-managed hospitals with excellent laboratories. Vancouver is especially alive to its needs. The particular hospital I spoke of was on the Pacific Coast, but it will be kinder not to say specifically where.

Dr. Lester Newman, San Francisco: In some respects we think we are rather setting the pace, and I speak advisedly. I have spent some of my time in New England and twenty-five years in Chicago, and I am also interested in this as a Californian, and have to speak out. The diagnostic clinic in my mind is one of the means of bringing hospitals to a high standard, and we have two such endowed. They are there to stay, we hope, and their quality is unquestionable. They are equipped with pathologists and all the accessories, and the patients are diagnosed before they are taken into the operating room, which to my mind is a very important matter in this day of promiscuous surgery. It is a step in the right direction, and I wish to emphasize the fact that there are a few things done on the Pacific Coast just according to Mr. Bowman's ideas, and I am with him every time. It is very important at this immediate time, and I simply want to say that we are with you and working hard.

Dr. H. B. Howard, Boston: When the College of Surgeons started this idea of standardizing hospitals I felt it was a good beginning. It seems to me that if they formulate clearly the essentials which should be in a hospital for a given amount of surgery, and publish these standards, being careful not to over-standardize, they will find that the hospitals will struggle everlastingly to meet these standards.

So far as my experience goes, it does not seem to me, at least, that there can be very much splitting of fees; that we have need to have very drastic laws against that practice. Personally, I never met a man who I knew split fees in New England, and though I would not want to say there were none in Massachusetts, I cannot think of anyone who would be guilty of that. I practised in the West, as far west as Colorado, for three years and I did not meet a surgeon there who even offered to divide with me 50-50. I didn't meet a surgeon who ever approached me in any improper manner. That was some time ago, and it may be that they have grown worse in the last 25 years.

I believe thoroughly in the matter of progress in standardizing hospitals. There is a great chance for good work in that direction.

I would like to go back to Dr. Codman's paper if I could. So much was said against our whole statistics. The Massachusetts General Hospital tried to omit the statistics of the medical and surgical work the year before I became superintendent, because the trustees thought them absolutely useless. I want to say that it annoyed them so during the year, answering questions and letters about it, that there was no question but that the statistics should be published, poor as they were. I admit that they are always open to improvement. I am glad to see that Dr. Codman makes such an effort and spends so much time on improving the statistics of our hospitals. There is room for more improvement, and I was glad to hear him say that there were no limits to which we could go, because so far as I have seen, this agitation has always been going on. If you will look through the statistics of 25 years ago and compare them with what the ordinary hospital is doing today, you will find that there are distinct improvements, even in the ordinary hospital. They come closer and closer to a correct diagnosis and there is more and more care taken about it.

In regard to the diagram method, there is no question in my mind but that would apply beautifully to the small hospital, but I still question whether you are going to be able to get the diagrams of a large hospital like the Massachusetts General and the City Hospital to synchronize. I don't feel so sure of that as Dr. Codman does. It is a great thing to have started, though, and I know there is room for improvement.

It is the same thing with our insane institutions in the state. Those statistics have been gone over and improved and started upon a fresh basis and reimproved at least ten or fifteen times in my re-

membrance. I am not willing to admit that they have made no progress, but there is room for still more. I think that superintendents will all admit that if you do the best you can to tabulate what is taking place, that that is of importance.

EFFICIENCY TESTS APPLIED TO THE ATTENDING AND HOUSE PHYSICIANS OF THE COOK COUNTY HOSPITAL, CHICAGO.

BY JOSEPH A. CAPPS, M.D., CHICAGO,

Chief of the Medical Staff, Cook County Hospital.

FOR the past three years an experiment in efficiency has been carried out with the professional staff of the Cook County Hospital. The principles of the merit system, long in use by the Civil Service Commission, have been extended to the daily work of the hospital physicians. The success of the scheme has been made possible by the enthusiastic interest and devotion of the Efficiency Committee,—a group of specialists not on the staff, who have given time and thought to its perfection. The staff also has coöperated by closer attention to ward work and by sympathetic discussion and criticism, to the end of improving the standards.

A certain amount of expected hostility to supervision developed at first on the part of the staff physicians, accustomed, as they were to independence and authority; but this has melted away as the advantages of the system have become apparent. There is no exaggeration in the statement that never before have the patients been so well cared for and never has the routine medical work been so consistently and thoroughly carried out as under the new efficiency plan.

I propose to present in brief outline the methods employed.

The unit of service is 50 beds, with one senior and one associate attending physician, a senior and a junior interne. The markings are made upon the entire team on a service, each individual contributing his share to the total. The Efficiency Committee gives one to two evenings each month to the task of computing the marks.

The Committee is provided with the following items of information:

A. Post-mortem records for the month. The number of deaths is about 12 each day.
B. The bedside diagnosis of each post-mortem case.
C. The records of 5 histories from each service selected at random.
D. The reports of the social or welfare workers, with reference to "satisfaction of patients."
E. Letters from departmental chiefs, regarding excellence or neglect on the part of the staff.
F. Publications and papers read by members of any unit before medical societies.
G. A record of the hours spent at the hospital by attending men.
H. A record of attendance at the regular monthly staff meetings.

With this material at hand, the markings are made according to the following efficiency standards, using the mark of 80% as a basis for addition or subtraction:

1. For each hour in attendance in excess of the legal requirement of 18 hours a month, a credit of 1/5 point is given up to a maximum of 3 points.
2. For failure to attend staff meeting, a deduction of 1 point.
3. For each history sheet omitted, a deduction of 5 points. For excellence of histories as a whole a maximum credit of 10 points. For inferiority, a maximum deduction of 10 points.

The following details in the histories are noted in computing the totals:

(*a*) Account of present complaint.
(b) Account of patient's past history.
(*c*) Account of patient's family history.
(*d*) Account of physical examination.
(*e*) Proper notes on patient's progress during treatment and complete summary upon discharge.
(*f*) Complete description of patient's condition upon discharge.
(*g*) Adequate account of laboratory findings.
(*h*) Quality and completeness of record taken as a whole.

4. For promptness in making and completing records, maximum credit 5 points. For delay in making and completing records, maximum deduction 5 points.
5. For adequate and complete description of operation or of reduction of fractures, a maximum credit or deduction of 3 points.
6. For services having during the month five or more deaths and no post-mortems, deduction 2 points. For success in obtaining post mortems, credit according to percentage up to a maximum of 4 points.
7. For diagnosis checked by post mortem, credit or deduction to maximum of 5 points. The post-mortem data are furnished by the resident pathologist.
8. For failure to enter clinical diagnosis and fill in diagnostic sheet, previous to discharge or death, deduction to maximum of 5 points.
9. (*a*) For publications and articles of merit during the year, a maximum credit of 10 points. For failure in such productive work a deduction is made.
   (*b*) Similar markings are made for the internes.
   (*c*) Special work by internes, approved by the committee may be credited by 2 points.
10. Certain persons, designated by the Civil Service Commission, examine each ward monthly for cleanliness of patients, floors, windows and equipment and upon the pres-

ence of prescribed articles of equipment, such as clothing, food and medicines. The service unit is given a credit or demerit of 5 points.

11. Welfare workers report on "satisfaction" or dissatisfaction of patients. Credit or demerit, 2 points.
12. For histories returned by librarian to internes for correction, deduction 1/2 point.

For the guidance of the internes there is posted in the examining room of each service a printed sheet of "Standardized Clinical Observations," which outlines the required special examinations of certain groups of diseases. For example, meningitis in every case demands:

1. Blood culture.
2. Spinal puncture, total and differential cell count, culture of fluid withdrawn, and pressure of fluid.
3. Leucocyte count.
4. Examination of eye grounds.

In this way a level of efficiency is maintained throughout the hospital.

Every month the markings of each service during the preceding month are posted in a conspicuous place in the main corridor. A friendly rivalry between the teams is created, and every lazy man is spurred on to his best endeavor in order that his team score may be creditable.

The driving power for this rather complicated machinery is entrusted to the executive committee, which is composed of the president of the staff, the warden and the chiefs of departments. This committee meets one evening of each month, and considers matters affecting the welfare of patients, physicians and scientific workers, as well as broader questions of hospital policy. Recommendations are made for final action to the general staff at its regular monthly meetings. The staff meetings are well attended and made interesting by general discussion of live topics. These meetings are open to the county administrators, the civil service commissioners, to the warden and assistant wardens (superintendents), to representatives of the interne body, and to the heads of the training school for nurses. In this way a free exchange of opinion between the various hospital groups has been fostered, and as a consequence the friction that arises from misunderstanding has been largely eliminated.

This sketchy description of the efficiency system reveals many glaring defects in the attempt to place a value on medical skill and service. Such important qualities as therapeutic skill, surgical judgment and dexterity are not even recognized. It seems impossible to pass judgment upon such subtle personal traits.

The methods are imperfect, but if they are considered only as a means to an end, namely, the development and maintenance of a higher standard of efficiency in the routine work of the hospital, they have been abundantly justified. Furthermore, they have had no little influence in promoting an interest on the part of the professional staff, not simply in the individual's own ward, but in the hospital as a whole.

DISCUSSION.

Dr. H. B. Howard, Boston: An immense amount of work can be done along the lines laid out here by Dr. Capps. All it needs is a spirit of fairness to run through the whole thing, and if the spirit of fairness does run through it, so that real merit counts and credit is given for actual work done, I think any system of that sort will bring good results. I think that it needs only a little time, a little discussion and a little more thorough understanding by the different departments in the hospitals before they make and adopt customs of this sort.

I was in the Presbyterian Hospital in New York City a short time ago, and I think that the custom of recording the time of entering and leaving the hospital on the time-clock had been adopted by the staff. When I was at the Massachusetts General Hospital the Trustees found that the record of the Out-Patient Department in regard to the staff attendance was not being well carried out in the spirit they had asked for. Dr. Capps may remember about it as he was a student there then. The arrangement was made so that a sheet of paper was placed there after that for the men to record their entrance and exit for service. It took only a little interest on the part of the Trustees to found that system so that it went for years, and I suppose it is still going, so that it was almost absolutely accurate and they knew just how much time a man spent there. It was a record, and the man could find no fault with it because he made it himself, and the record was placed in such a conspicuous place that even the one or two who would have made a false record didn't dare to.

I appreciate Dr. Capps' paper very much, and the spirit of improvement which it will bring.

Original Articles.

THE SIGNIFICANCE OF PERSISTENT PAIN OR OTHER SYMPTOMS REFERRED TO THE PERIPHERAL NERVES.

By Harold W. Wright, M.D., San Francisco,

Clinical Assistant in Neurological and Orthopedic Departments, University of California Hospital.

INTRODUCTORY REMARKS.

Along with the advance in specialization there has come the tendency on the part of the specialist to narrow his interest, as well as his proficiency, in the recognition of diseases other than those with which he is particularly equipped to deal. In like manner, the general practitioner, overawed by the rapid advance of specialism, has shown a tendency to the shirking of responsibility for making a reasonably

accurate diagnosis in a long-standing or obscure condition, and, therefore, has allowed the patient, in many instances, to drift from one specialist to another of his own accord, or to drift into the hands of the charlatan, thus wasting valuable time in arriving at a diagnosis, and perhaps undergoing expensive, painful and unnecessary treatment before a diagnosis is reached. Should not the general practitioner and the specialist, also, be sufficiently acquainted with all the general aspects of disease properly to diagnose and hence properly refer the patient for special treatment, if he is not himself equipped to deal with the disorder?

Probably there is no symptom for which so many diagnoses may be offered as that of chronic pain referred along the peripheral nerves. This paper represents an effort to enumerate the most important conditions responsible for persistent pain of obscure origin and to classify them according to their etiology. But before coming directly to this part of the paper, a few remarks on the reflex nervous system are in order.

In general, it may be said that reflex pain is the result of either mechanical or chemical irritation of the sensory nerve endings connected with the sympathetic ganglia and thence referred to the peripheral system, or that reflex pain is due to direct irritation of the peripheral sensory nerve endings, or of the sensory roots of the spinal cord, whence the pain is referred along the ramifications of these roots. It may also be stated, in a general way, that chronic pain is more apt to be due to mechanical irritation than to chemical, *i. e.*, toxic and bacterial influences, and even in the latter case, to mechanical restriction upon the inflamed nerve.

Let us consider a few examples of the reflex mechanism of pain or hyperesthesia or paresthesia:

The gastric crises of tabes are the result of irritation of the posterior nerve roots of the 6th, 7th, 8th, and 9th dorsal segments, and are probably due to a localized low-grade meningitis around these roots. The same mechanism may be responsible for intestinal, laryngeal, ocular, bladder, renal, and even sebaceous and sweat gland and vascular crises. The pain in the epigastrium which accompanies vertebral caries is likewise due to the mechanical irritation of the posterior roots of the 7th, 8th and 9th segments from the pressure of granulomatous products of the disease.

In connection with the whole subject of root pain, it is important to note the fact that the outer layer of the dura is alone sensitive. (See work of Elsberg on Spinal Surgery.)

According to Mackenzie, the sensory reflex of every organ is accompanied by a motor and a visceral reflex. It has been determined, also, that the sensation of pain relative to viscera has the following characteristics:

1. Splanchnic pain is usually in the midline, even if the organ by which it is caused lies on one side, or partly so.

2. Contrary to the pain of the peripheral hyperesthetic zones, splanchnic pain is not relieved by moderate chloroform narcosis.

3. The radiating external pains are never clearly defined.

4. The radiating external pains are felt in deeper structures (muscles, breast) and not in the superficial layers of the skin. (As is true of root irritation.)

5. Artificial stimuli, such as alcohol, cantharides, mustard plaster, the galvanic or faradic currents and hot applications, prevent, temporarily, the passage of visceral stimuli through the spinal roots to the peripheral hyperalgesic zones.

6. Both types of pain, visceral and radiating, are increased by intense emotion, such as fear and anger. (Higier).

On the other hand, chronic reflex pain may be due to peripheral causes, such as bad posture, weak feet, and have nothing to do with direct irritation of the posterior roots or with visceral disease, being dependent on a lack of equilibration of weight-bearing, and hence muscle strain, or to irritation of the synovial nerve of the joint being strained, and hence reflex pain to the other nerves connected with the articular branch. It is only of recent years that the frequency of mechanical conditions, such as bad posture, as causes of reflex pain, began to be appreciated; the work of Goldthwait especially has shown us their significance in relation to healthy visceral function.

We come now to the detailed consideration of types of persistent pain or other nerve symptoms in relation to causation.

A. Cranial Nerves.

1. *Gummatous infiltrations* of the cranial bones may be responsible for radiating headache; the lesion generally begins as an osteoperiostitis, and may directly involve the facial, auditory and abducens, as well as the trigeminal. Similar symptoms may be due to metastatic carcinoma or to exostoses following the fractures of cranial bones.

2. A frequent cause of headache and of neuralgic pain in the face is *cerebral lues* of the meningeal type. This is frequently overlooked because of failure to make or have made a careful and thorough neurological examination. (Migraine may turn out to be cerebral syphilis.)

3. *Sinusitis* is another frequent condition causing chronic headache.

4. *Brain tumor* is, of course, always to be considered.

5. *Psychic disturbances*, temporary or prolonged, are responsible for headaches, and the psychic disturbance which accompanies grief, fear and anger may aggravate the pain of other causation or bring on its acute phase. But the pain of psychic origin is rarely prolonged or

continuous unless due to the mental impression of physical injury when it simulates pain of organic cause, or when fatigue of the nervous centers is very far advanced, as in extreme neurasthenia.

6. *Arthritis* of the upper cervical vertebrae is not to be despised as a cause of frequent attacks of more or less acute pain radiating along the great occipital nerve throughout its course, or confined to the base of the occiput, where the patient often declares that he has a feeling of great pressure, which he fears is the forerunner of apoplexy or insanity. A stiff neck is not necessarily associated at any time or often with this type of pain; but crepitations in the joints of the neck and elsewhere are frequently observed.

B. Cervico-Brachial Nerves.

1. *Arthritis*, again, is the cause which would first come to mind. Together with the arthritis there may be an inflammatory neuritis, but it is the writer's belief that in the majority of instances the arthritis precedes and provides the mechanical conditions favoring a neuritis, which may be then brought on by trauma of slight degree or by cold. Both the arthritis and the neuritis are, in the last analysis, due to the same cause, *i. e.*, focal infection from teeth, tonsils or other localities. A chronic arthritis generally precedes by years or months the onset of the neuritis, and if the former were treated by measures to secure surgical rest and immobilization of the inflamed joint during the early stages, neuritis would not develop, in all probability. The arthritis may exist either in the shoulder or the cervical joints, in both of which regions an arthritis is predisposed to because of the repeated traumata to which these joints are exposed, and in the case of the cervical spine by faulty posture, especially in people of sedentary occupations. Therefore, efforts to correct or prevent faulty posture serve to prevent arthritis of the cervical spine; this is true of any of the weight-bearing joints of the body, *e.g.*, the knee, foot, sacro-iliac and lumbar joints.

In connection with pain about the shoulder or down the upper arm, a subdeltoid or subacromial bursitis should not be forgotten in making a differential diagnosis.

2. *Pott's disease* of the cervical spine here comes into consideration. Many a patient has been allowed to jeopardize his chances of cure, as well as to suffer needlessly, because a diagnosis was made without a careful examination for muscle spasm in the neck, and without any x-ray of the cervical vertebrae, or if one was taken only the anterior view was made and no lateral view. The clinical signs of tubercular caries are very definite even before the x-ray reveals the disease; the diagnosis should be made on them alone even if the roentgenogram is negative.

3. *Spinal Cord Tumor:* Although this condition is not nearly so common as those above mentioned, it is one that should always be borne in mind when confronted with persistent pain referred to the brachial nerves, especially if this pain is progressive and of only a few weeks' duration. A careful examination for sensory changes, however slight, in sharply defined areas of the skin, and periodic examinations every few days, are very essential in making such a diagnosis. In cord tumor there is usually a change in the objective symptoms from week to week; thus severe pain may be followed by numbness or other paresthesiae, by localized analgesia or thermoalgesia, with muscular weakness of an arm and a spastic or stumbling gait. All these symptoms could be elicited before the case came to the inoperable stage if the attendant had the habit of making a careful neurological examination or of having one made.

4. *Diaphragmatic pleurisy* may also cause brachial pain because of the connection of the phrenic nerve with the fourth and fifth cervical nerves.

5. *Aneurysm of the subclavian* is also to be held in mind in reference to brachial pain, when persistent.

C. Lumbar-Sacral Plexus:

Pain in these nerves is probably more often misunderstood than is pain in any other region, because of the complex ramifications of these nerves.

1. *Tabes:* If all the instances in which laparotomy has been performed for the pains of tabetic crises were recorded, the evidence would be astounding. But the most astonishing feature of such an inquiry would be the fact of failure on the part of the attending physician and the surgeon to have thorough neurological examinations made when case is first seen.

2. *Syphilitic meningitis* of the lumbar cord is frequently diagnosed as rheumatism or neuritis, or as sacro-iliac strain, because no neurological tests, including the examination of the spinal fluid, have been made. For example, a man forty-five years of age gave a history of a severe fall followed by persistent backache and pain radiating down both sciatic nerves, with coldness and numbness along the outer side of the legs. Because of the history of a fall, and because of the pain being aggravated by forward flexion of the spine, he was put into a plaster jacket. He obtained no relief after several days, and later developed more difficulty in walking, with spasticity and ankle clonus. Finally a lumbar puncture was made and positive Wassermann and globulin tests found in the fluid. Up to this time the pupils had not appeared abnormal. Later, the patient developed signs of fulminating general paresis, and within a year from the time he was first seen he had to be committed to an asylum because of attempting to kill his wife.

3. *Tumors of the Spinal Cord:* These are especially difficult to differentiate early from arthritis of the spine, and if the tumor is of

the cauda equina a diagnosis of sciatica is often made and adhered to until too late. Root pains are present in all these disorders and are the first symptoms, but a careful sensory examination will usually reveal early some degree of anesthesia or hyperesthesia of the root type, combined with hyperesthetic areas above and below, when tumor is present. The diagnosis of caudal tumors is particularly difficult because of the few neurological signs, neuralgic pain being the most prominent and of the same type as that of sciatica, and the sensory changes being confined to a very small area supplied by the fourth and fifth sacral segments, or perhaps only the area supplied by the fifth, near the anus. Furthermore, bladder signs and noticeable paresis of the limbs are absent in caudal tumors in the earlier stages, and patellar reflexes may be unchanged for some time. Tenderness of the spine on percussion over a particular vertebra is a valuable sign in cord tumor, but may also be present in arthritis; an increase in the patellar reflexes may occur in either condition, but the change in the character of the tendon reflexes will progress in cases of spinal cord lesion; the x-ray is of very little help in distinguishing arthritis from tumor because, unless the arthritis is advanced enough to cause hypertrophic changes in the bone, the roentgenogram will be negative.

4. *Aneurysm of the abdominal aorta*, kidney stone, pelvic inflammation or uterine displacement have all to be considered in diagnosing the cause of frequent and persistent pain in the lumbar-sacral plexus. But uterine displacement is not the sole cause, and of less importance than the general postural defects which are associated.

5. *Sacro-iliac strain*, or luxation and lumbosacral strain, either from trauma or bad posture, are frequent and perhaps the most frequent causes of chronic pain of the lower back and the sciatic distribution. Such conditions may also produce coldness and numbness of the thighs, and thus give rise to the suggestion of beginning tabes. Sacro-iliac strain causes pain in the great sciatic distribution, whereas lumbosacral strain causes pain in the groin, ilio-inguinal and ilio-hypogastric regions, and thus may simulate chronic appendicitis. The sacro-iliac joint is supplied by the first and second sacral nerves, and when this joint is strained the terminal branches of the synovial nerves are irritated, and thus the pain is referred along the distribution of the first and second sacral nerves peripherally, *i. e.*, to the sciatic; or the plexus and its blood vessels may be pulled upon, stretched or lacerated. Weakness of the legs may be complained of in sacro-iliac strain, also increased tendon reflexes may be found; but if these two signs increase in degree, and ankle clonus occurs, a cord tumor, subdural hemorrhage or a meningitis is present. A lumbar puncture or immobilization of the spine in plaster will serve to settle the diagnosis.

6. *Flat Feet or Weak Feet*: These can produce chronic lumbo-sacral pain because in such conditions there is an extra amount of strain put upon the lumbar and thigh muscles in preserving equilibrium and in walking, and muscle fatigue results. The same is true of arthritis of the foot.

8. *Postural Defects and Visceroptosis:* This is a comparatively new chapter in medicine, but the opinions of Goldthwait and other orthopedic men have been amply confirmed. Too many women and men also have been quickly relieved of long-standing backache and vague abdominal pain and digestive disorder with chronic constipation by simple mechanical appliances to support the abdominal walls and the lower spine and by exercise, to improve muscular tone and posture, to allow of any scepticism as to the value of these procedures or the significance of posture. Faulty bodily mechanics goes hand in hand with faulty physiological function and has a direct relation to many of the complaints of the chronic invalid. Many an appendix has been unnecessarily removed, and many an abdomen explored because these mechanical factors have not been appreciated. It is true that in this class of patients there is frequently a constitutional neurasthenic and psycho-neurotic state, and the correction of postural defects is not the whole story, but such correction is a very great help in overcoming the neurotic element because it lessens fatigue and adds to efficiency, and thus gives encouragement in the struggle of life.

TREATMENT OF THE VISCEROPTOTIC.

BY RICHARD F. CHASE, M.D., PORTLAND, ME.

IN another paper,[1] which was based on an observation of 400 consecutive female patients, with reference to visceral ptosis, I have shown that gastroptosis of one inch or more below the navel occurs in about 10% of women, whereas gastroptosis of all degrees (slight and marked) has been observed in from 35 to 50%. With prolapse of the stomach there is always corresponding prolapse of the transverse colon.

From my own and other observations (especially those of roentgenologists) I am led to diagnose gastric prolapse only when the greater curvature of the stomach is found at least one inch below the navel, the lesser curvature being, of course, correspondingly low. Even then, or in case of a prolapsed kidney, I do not always inform the patient of the condition, because I believe that oftentimes such information may be the starting-point of even grave nervous symptoms.

Of the 43 cases of gastroptosis observed in the 400 women I found digestive symptoms in 21%; backache and abdominal dragging, re-

spectively, in 18 and 24%; nervous symptoms in 20%; organic disease, outside of the alimentary tract, in 19%; and constipation in 68%. 73% had lost an average of 13 lbs. in weight.

One of the principal objects of this observation was to determine in what percentage of these severer cases of gastroptosis, treatment of the ptosis itself, or symptoms arising therefrom, seemed indicated. My conclusion was that such treatment is indicated in less than 25% of such cases, because less than that percentage of these patients have symptoms referable to the ptosis. This conclusion, I am aware, is not in accord with the popular view, which seems to be that all patients having one or more prolapsed organs (regardless of the degree) should, necessarily, be treated for that condition. As a matter of fact, all internists realize that many patients having ptosis require no treatment for the affection, because it often gives rise to no symptoms. This is a fact which should be more generally appreciated.

Since the early recognition of visceral ptosis, most of these cases have been cared for by the medical man. You may have noticed of late that much of the literature on this subject has been contributed by surgeons and orthopedists. So much literature, indeed, has emanated from these sources, that I greatly fear the present and past accomplishments of physicians in this line of work may have become obscured. Let us, if you please, consider for a moment what the real facts in the case are. A careful review of the more recent literature on the treatment of ptosis, contributed by our best surgeons, plainly shows that among them there prevails a consensus of opinion regarding surgical treatment. This opinion has been so clearly, if somewhat emphatically, expressed by Dr. J. E. Moore[2] of Minneapolis that I feel I cannot better present it to you than by quoting what he says:

"Many years ago Glenard enlightened the profession concerning visceroptosis, but the average physician paid very little attention to the subject. With the development of abdominal surgery, surgeons began to take note of these physical defects, and very naturally concluded that these defects were the cause of the patients' suffering, and that the best means of treatment would be mechanical. It is necessary in surgery, as in everything else, to go to extremes to find what the happy medium is. These operations did only temporary good and, on the whole, were very disappointing, but they did not kill people; and while they were rather hard on the present generation, they have enabled us to demonstrate that operations are not curative in these conditions, and we have relegated these patients to the physician, where they rightfully belong, and have very materially helped the physician to establish the ground on which he now stands. In this way these operations, now discredited alike by surgeons and physicians, will prove of untold value to future generations. These scars should not be placed to the discredit of the surgeon, but should be looked upon as milestones of his progress, for, having demonstrated the inefficiency of surgery, he honestly turns these patients over to the physician. Real surgeons no longer perform these operations. It is only the 'would-be' surgeon, the one without personal experience, or the honesty or ability to profit by the experience of others. Our worst difficulty now is that half-baked physicians are still referring these cases to us for operation."

So much for surgery. As to the orthopedist, he has, undoubtedly, contributed to our knowledge regarding the effect of bad posture on visceral prolapse, and he has very probably fully emphasized the importance of this feature of the subject, and the general physician has profited thereby. Thus it would seem that visceroptosis is not generally to be considered as a surgical condition; that the orthopedist's chief claim to treatment rests mainly on the correction of bad posture, a condition which in most cases the medical man should be able to care for; and, finally, that visceroptotics generally should be cared for, as in the past, by the medical man. With this premise, let us proceed to the medical treatment of the visceroptotic, that large class of individuals, mostly women, who often present an endless variety of symptoms, and in whom there is found prolapse of one or more of the abdominal organs. Of these patients, it is well to bear in mind that there are two quite distinct types, when classed as to the origin of the condition, viz: (1) the congenital or "virginal" type, as termed by Rovsing, and (2) the acquired type.

Prophylaxis. In most of the acquired and in many of the congenital types the degree of ptosis and the condition, as a whole, might have been ameliorated, had suitable measures been taken in these cases, in the beginning of the condition. Such measures are: (1) avoidance of too frequent pregnancies, (2) proper care of the patient after confinement, (3) the cure of existing constipation, (4) advice and measures to obtain good posture, (5) the proper use of corsets, if they are to be worn, (6) the avoidance of overwork, worry, and too strenuous social duties, and (7) advice as to general exercise, hygiene, etc.

As a rule, it is the family physician who first has the privilege of prescribing these measures, for it is he who first comes in contact with these patients. And let me state here, that in no other line of his work is there greater opportunity to benefit womankind and, indirectly, mankind as a whole.

Of the severer cases of visceral ptosis, I am sure we have all been impressed with the generally "run-down and played-out" condition of the patients, both physically and mentally. Rest, then, both physical and mental, is one of the very first requisites of treatment, and it

should be prescribed according to the needs of the individual case. Physical rest may vary in amounts from 30 to 60 minutes on a couch after each meal (when the stomach contains its greatest weight), to complete rest in bed from one to several weeks. With the patient in the horizontal position, it has been shown by the x-rays that motile prolapsed organs return nearly, if not quite, to their normal position, while if the foot of the couch or bed used is elevated 10 inches or more, the return of such organs to normal position, and the consequent relaxation of their ligaments, is assured. This is a simple and beneficial measure, too often neglected.

If the necessary mental rest cannot be obtained at home, as is often the case, then the patient should be removed to some place where such rest may be procured. For the neurasthenic type such a step is often necessary.

Weight. In practically all cases of marked degrees of ptosis the patients are poorly nourished, and in all severe cases of acquired ptosis there is some loss of weight. Loss of weight is believed by many to be one of the chief causative factors of visceral ptosis. In any event, to effect a cure of the ptosis and the patient, the weight must be restored in whole or part. This restoration of weight must be procured through food which, of course, must undergo proper metabolism. Proper metabolism, however, cannot take place if, as often happens, some derangement of the digestive system exists, no matter whether the derangement is of functional or organic origin.

The nature of the trouble must be determined by the usual measures employed in the diagnosis of digestive diseases. The ascertainment of the digestive condition not only directs, to a considerable extent, the proper drug and dietetic treatment, but it further aids in the cure of some patients by the assurance, if such is the case, that no imaginary serious condition exists.

The digestive disturbance known, and relieved or overcome, the question of diet and nutrition becomes a simple one, whereas blind attempts to increase nutrition are often failures. In the beginning of treatment the diet is dependent largely on the existing digestive condition, later the chief question is how much food to use. This question may be settled either by weighing the food and calculating the number of calories represented, or by weighing the patient. Personally I prefer and employ the latter method, even though the patient is confined to bed. A sufficient increase in the patient's weight is the surest proof that the amount of food consumed is sufficient, even though the quantity may seem to both physician and patient to be insufficient. The demonstration to the patient of an increase of weight usually has a favorable psychic effect, as it convinces her that you are accomplishing something, and she will naturally believe that you can do yet more.

The various phobias and whims of the patient regarding diet must be overcome. By proper tests of the stomach you must prove to her that your knowledge of her digestive functions is pretty exact, and that her digestive organs are capable of taking care of the quality and quantity of food which you prescribe. But remember that "in the long-run" such accomplishments are not obtained through bluff; you must, as a rule, deliver the goods.

Constipation, as stated, occurred in 68% of the cases observed. This condition is not only very common in this class of patients, but its severity is hardly equalled by any other class. I wish to state emphatically that most cases of constipation are curable, and by medical measures; and I mean by this that after such treatment, patients may have regular movements of the bowels, and without the aid of drugs, enemata or other like measures. The general physician pays too little attention to this condition. As a rule, his treatment is careless, inefficient and consequently not curative. I cannot here enter into the finer details of treatment. Determine if the constipation is of the atonic or spastic type, and the cause, if possible. Then secure for the patient a regular movement of the bowels, perhaps with cascara if of the atonic type, or with belladonna or hyoscyamus if of the spastic type, in conjunction with diet and other measures, gradually reducing the dosage of medicine until none is required. Regularity of habit *must* be obtained by the above means, the Leube oil treatment, or by other measures.

Diet is the main feature of this treatment, and a correct diet must be employed *both* during and after the cure. The quality and quantity of food must be definitely prescribed and the physician *must see to it* that such diet is used; this necessitates at least weekly visits to the physician.

Diet in constipation becomes a simple matter if one recalls that food acts favorably on the intestines in three ways: (1) by its mechanical effect, stimulating peristalsis; (2) by its sugar content, stimulating intestinal secretion; and (3) by its acid content, also stimulating peristalsis. Some foods, of course, act favorably through all three of these agencies. A sufficient variety of food can and should be prescribed, provided no contraindications exist, such as diabetes, certain stomach disorders, etc. Special trunk and general exercises must be insisted upon in some cases, if the general condition of the patient permits; but *do not* make the mistake of urging exercise for these patients when it is rest that is first needed.

After the time for exercise has arrived, I often have the patient wear a pedometer, at first, to guard against too much walking, later to learn if she walks enough.

Special trunk exercises should be taught the patient; they are beneficial to both the constipation and the ptosis, to the latter by strength-

ening the abdominal muscles, and also by improving the posture. Hydrotherapy, massage, and electricity may be desirable in some cases; they are usually not essential. Severe cases of constipation are rarely or never cured by drug treatment alone. In the proper treatment of this condition, perseverance must be insisted upon and often stimulated by the physician.

I cannot here discuss spastic constipation, often accompanied by colitis, or other bowel conditions; suffice it to say that they, like *all other* complicating affections, must receive their proper attention.

I fear that already the various measures recommended may, to some, seem elaborate, even impractical, but I assure you if one does not employ these or other equally beneficial measures he will continue to lose this class as patients.

Remember always that in the care of these cases, it is the patient and her entire condition, not alone the ptosis, that you must treat. Abdominal support, to many physicians, appears to be the "cure all" for these patients, and it seems to matter little whether the supporter supports or not. That the benefits derived from some supporters is purely mental, cannot be doubted. If a patient's abdomen is flat or concave, support of the abdominal viscera cannot be obtained, even if the graduated pads are used. For cases in which support may be obtained, I occasionally employ the Storm binder, especially for men. For most women, if they wear corsets, and if support is obtainable, I obtain it through a suitable corset, properly fitted and properly worn. Such a corset not only furnishes support, in certain cases, but it also aids in correcting bad posture; it compels a woman to sit and stand properly. Several of the worst cases of ptosis that I have encountered in private practice have been cured without the aid of an abdominal supporter or a corset, consequently I feel that such support is not really essential to a cure, in some cases.

By the term "cure," I mean the overcoming of all curable symptoms, and the securing of a partial return of the prolapsed organs to their normal positions. Rarely or never are prolapsed viscera completely restored to their normal position, and such restoration is evidently not essential to a cure. Through abdominal support and a general increase in the patient's strength, abdominal dragging and backache (met in about one-fifth of these patients), when due to ptosis, usually disappear.

Simple prolapse of the kidney, as a rule, causes no symptoms, and consequently requires no particular attention; but if it seems desirable to furnish support for the kidney, such support may be obtained by the methods mentioned, in so far as support is obtainable.

The nervous or mental element presented by some of these patients is often the most difficult feature of the whole condition to overcome. Some men seem to attribute these symptoms to the ptosis, and believe that by overcoming the ptosis, the symptoms will disappear. But that such is not the case is proven by surgery, because even successful gastropexies and nephropexies often fail to relieve these symptoms. Like many others, I look npon the ptosis merely as a part of the generally debilitated condition of these patients, and I feel that the ptosis is quite as often the result, as the cause, of a general condition. Consequently, I meet the nervous symptoms in precisely the same way as I would meet nervous symptoms in patients not having ptosis.

My first object in treatment is to relieve the patient of her physical ills, by the methods already set forth. If I am successful, I have gained the patient's confidence, an essential to successful treatment. Her mental ills, her whims, and her phobias, I next endeavor to set right. For example, many patients have erroneous ideas regarding diet and digestion. I show and prove to the patient wherein she is mistaken, not by mere say so, but by convincing acts and facts. The same principle is employed in treating her other erroneous ideas.

Occasionally a case is met in which it is difficult or even impossible to overcome this nervous element; on the other hand, the successful treatment, obtainable in most cases, is a gratifying accomplishment.

A complete consideration of the treatment of the visceroptotic would require a paper much longer than this one, so that I am content if I have succeeded only in presenting for your consideration the following points:

1. That visceral ptosis, of sufficient degree to be of clinical significance, is not as common as generally believed.

2. That surgery is rarely required in the treatment of this condition.

3. That constipation is curable, and by medical means.

4. That abdominal support, although desirable, cannot be obtained in some cases.

5. That the treatment of these cases must be directed to all of the patient's physical and mental ills, and that the ptosis is often a secondary consideration, but which in the mind of the patient has become of considerable importance merely from the knowledge of the fact that such a condition exists.

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RELATIONS OF PRENATAL AND POST-NATAL WORK.

BY MICHAEL M. DAVIS, JR., PH.D., BOSTON,

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GERMANY, in October, 1914, at the outbreak of her war, appropriated the sum of two million marks *a month* for use in aiding women at the time of maternity; this being in addition to an already well-developed system of maternity benefits. Such a sum, calculated on a per capita basis, would mean $60,000 a year in the city of Boston,—a larger amount than is now expended for the prenatal and postnatal services of the Boston Department of Health, the Instructive District Nursing Association, and the Baby Hygiene Association, all put together. If Germany deemed such a sum well spent in conjunction with a war undertaken for her purposes, what amount may our nation think wise to put forth, with the aim of protecting the future citizens of "a world made safe for democracy"?

Undoubtedly, the expenditure of public and private funds for the welfare of babies and mothers will depend on our realization of a need and on our confidence that the mode of its expenditure is wise. On the latter question, that of method, the data published in THE BOSTON MEDICAL AND SURGICAL JOURNAL of January 4, 1917, had some bearing. The information collected in the present paper leads on from that point.

The conclusions of the article just mentioned, as to the benefits of prenatal work, were summarized as follows:—

"1. A comparison of the death-rates of 731 babies whose mothers received prenatal care in five wards of the city of Boston during the two years 1914 and 1915, shows that the death-rates were reduced to one-half or one-third those found among babies not receiving prenatal care in these wards during the same period.

2. This reduction is found among babies during the first week of life, during the first month of life, and during the first year of life, taken as a whole.

3. The proportion of still-births, in each year, is only half that among the general population.

4. As it is known that only a small proportion of these babies received any other organized medical or nursing supervision, the reduction in death rate is apparently to be attributed to the prenatal work."

Since the publication of this paper valuable confirmation has arisen from New York. In the Bulletin of the Department of Health of New York City for February 24, 1917, is printed a report of the prenatal work during 1914, 1915 and 1916. Comparison of the death-rate among the prenatal cases with the general death-rate among babies in New York showed a marked reduction, and this, as the following table indicates, parallels closely our Boston data.

TABLE I. COMPARISON OF THE DEATH-RATES AMONG PRENATAL CASES WITH THE DEATH-RATE AMONG GENERAL CASES OF BABIES IN THE CITY OF NEW YORK AND IN FIVE WARDS OF BOSTON DURING THE YEARS 1914 AND 1915.

	Death-Rate of Prenatal Cases under One Month of Age		Death-Rate of General Cases of Babies of the Same Age Period	
	Boston	New York	Boston	New York
1914	17.3	19.5	45.3	36.6
1915	25.9	26.0	38.3	35.9

It is certainly noteworthy that the death-rate of babies under one month of age, who received prenatal care, is practically identical in both Boston and in New York during these two years.

It is no less striking that the *reduction* in the death-rate under one month of age, produced on account of, or in conjunction with, the prenatal work, is closely similar in the two cities. In 1914 the prenatal cases show a death-rate (under one month of age) of 38% of the general cases in Boston, and of 53% of the general cases in New York. In 1915 the corresponding figures are much closer, being 67.6% and 72.4%, respectively.

In the authoritative address of Dr. J. Whitridge Williams, printed in the *Journal of the American Medical Association* of January 9, 1915, it was estimated that the application of prenatal and obstetrical care, according to the standards outlined by Dr. Williams, would have been capable of reducing the mortality to 59% of that which actually occurred without the prenatal care. Dr. Williams' mortality rate was taken to include all deaths from the seventh month of pregnancy up to two weeks after delivery, and his estimate is not, therefore, strictly comparable with the Boston or New York figures. It is, however, worth noting that the average reduction in death-rate up to one month of age, as shown by the above figures in Boston and New York during 1914 and 1915, was 58%.

On the basis of the data secured in Boston and New York and of Dr. Williams' estimate, it seems conservative for us to estimate that well-organized prenatal work may be expected to reduce the mortality of babies under one month of age by 33% under what would occur without such service, and of babies up to one year of age by fully 40%.

There can be no doubt that the reduction in the death-rate is not only due to the nursing care and advice given to the mother and family during the period of pregnancy, but also to the improvement in obstetrical and post partum care, which is a direct or an indirect result of the attention of the nurse. In this respect a distinct contrast appears between the two cities. In New York, 64% of 898 prenatal cases were delivered by midwives in 1914, and 61.9% of 1442 cases in 1915. In Boston practically no cases were delivered by midwives, the majority (60%) of the mothers being attended by the

out-patient service of the Boston Lying-in Hospital. In New York, in 1914, 8½% of the cases were delivered in hospitals (7.4% in 1915) while in Boston the hospital deliveries were under 4%. This marked divergence in the obstetrical service is not, however, accompanied by any noticeable difference in the death-rate of the babies during the first month of life.

EFFECT OF PRENATAL WORK ON BABIES OVER ONE MONTH OLD.

Since the publication of the paper in THE BOSTON MEDICAL AND SURGICAL JOURNAL last January, there has been time to make a further study of the 1915 prenatal cases. Inasmuch as every one of the babies who had received prenatal care was followed through to the end of its first year of life, the study of all the babies born in 1915 could not be completed until after the close of 1916. All deaths occurring among these babies during 1916 have been tabulated, the age, cause of death, etc., being recorded. A similar study had previously been conducted for the babies receiving prenatal care in the same five wards of Boston during 1914.

We are thus able to state for these two years the number of deaths which occurred between the ages of one month and one year, among the 731 babies who had received prenatal care. The following figures were secured in this way, and in the next table are compared with the death-rate during the same age period of all the other babies in the same five wards who did not receive prenatal care.

TABLE II. DEATH-RATE OF BABIES WHO HAD RECEIVED PRENATAL CARE IN FIVE WARDS OF BOSTON DURING 1914 AND 1915. AGES: ONE MONTH TO ONE YEAR. COMPARISON WITH CORRESPONDING BABIES WHO HAD NOT RECEIVED PRENATAL CARE.

PRENATAL CASES. DEATH-RATE PER 1000 LIVING BIRTHS.		NON-PRENATAL CASES IN SAME WARDS		PER CENT. REDUCTION
	DEATH-RATE		DEATH-RATE	
1914	20.2	1914	62.8	68%
1915	33.2	1915	58.3	42%

This table shows that between the ages of one and twelve months the death-rate among the prenatal cases was far less than among those not receiving prenatal care. The reduction was 68% in 1914 and 42% in 1915. This certainly tends to indicate that the effect of the prenatal work is substantial, even after the close of the first month of life.

The prenatal work as conducted by the nurses of the Instructive District Nursing Association of Boston does not continue beyond two weeks after the birth of the child. Whatever effect is produced by the prenatal work upon the health of the child between the first and twelfth month of life must, therefore, be due: (1) to giving the child a better physical start; (2) to educating the mother in the care of her baby; and (3) to the promotion of breast feeding. No data exist for determining the relative importance of these three factors.

To what extent did these prenatal cases between the ages of one month and one year receive other organized medical and nursing service? The chief form of such service in Boston is that furnished by the Baby Hygiene Association, with its "milk stations," its conferences for mothers and babies, and its trained corps of visiting nurses. These nurses are not the same as those of the District Nursing Association who carry on the prenatal work. Most cases (two-thirds of the 731 cases studied) were referred by the district nurses to the Baby Hygiene Association, but only 17 or 18% actually went to the Baby Hygiene Station (17% in 1914, 18% in 1915).* Thus over four-fifths of the prenatal cases did not receive this medical supervision between the ages of one month and one year, and the lowered death-rate shown in Table No. II must be attributed mainly to the prenatal work.

RELATIONS BETWEEN PRENATAL AND POSTNATAL WORK.

Prenatal work kills two birds with one stone. It benefits the mother and the baby also, and shows such results for both that it should be regarded as the basis of the campaign against infant mortality. Historically, the development of the infant welfare campaign in this country began with the baby, often merely with providing pure milk for babies. It has come to emphasize education more than milk; and is advancing to include obstetrical and prenatal care. Logically, prenatal care is the foundation of the campaign against infant mortality, and as the public comes to appreciate its practical value and far-reaching human significance, prenatal work will assume the place which it should. Its extension is now proceeding. Postnatal work, however, was and still is the psychological point of approach, because a baby has for most people a keen dramatic interest. The emphasis of the infant welfare campaign, however, has shifted, and must further shift, from Milk to Motherhood.

This does not mean that postnatal work should be abandoned, or even diminished. Its well-established forms have demonstrated their value. It does mean that there should be a new emphasis in the infant welfare campaign and some change in relationships between its two chief branches. Surely it would be good for babies and their mothers if a prenatal service, followed in every case by postnatal service, reached every baby and every mother. But is there any community in which resources are yet

* It would be interesting to compare the death-rate of the cases which received both forms of care with those receiving only one. The number of cases is too small to render such a comparison possible.

sufficient even to approximate this ideal? In Boston, for example, about 20,000 babies are born annually. In 1915 the Baby Hygiene Association reached 4792; the prenatal work of the District Nursing Association reached 2536. Allowing for babies reached by both, the total number of individuals reached by these two large agencies for the prevention of infant mortality was about 5900, or less than one-third of the total number of babies in the city. The usual limitation faced by public or private organizations in every city is, of course, lack of money. When the number of cases actually reached is so far below the number who need to be reached, surely a selection must be made. What principles should guide this selection?

1. A nurse who has followed mothers and babies up to two weeks after confinement is in an excellent position to select those babies who particularly need postnatal care. Babies who are known to the nurse who gave the prenatal care, as delicate, or likely to be weaned early, should, without fail, be brought over to the postnatal service. The prenatal nurse can be held responsible for this.

2. The routine reference of every prenatal case to the postnatal service is probably not so valuable as the concentration of postnatal work upon the cases selected by the prenatal nurse for a definite reason.

3. The prenatal nurse should be the same as the postnatal, for thus continuous and efficient service will be vastly facilitated. Otherwise the prenatal nurse may be held responsible for the actual transfer to the postnatal nurse of the cases selected.

4. Many babies who have not received prenatal care and who are delicate, bottle-fed, or otherwise needy, require particularly the postnatal service. Some babies who have had the prenatal service, may, before the end of their first year, develop conditions which the postnatal service would benefit.

5. The selection of babies of these classes requires a definite effort to reach them on the part of the postnatal service, partly through publicity and partly through canvass of districts by nurses, or otherwise. Rightly placed effort in selecting or hunting up needy cases is as valuable as effort spent in caring for cases. Until prenatal or postnatal services can be extended to reach the entire population of a district, the splendid slogan of the infant welfare campaign, "Keep Well Babies Well," needs to be supplemented by such war-cries as: "Keep Sickly Babies from Getting Sick"; or "Before You Wean Your Baby, Take Him to a Health Station."

The presence of war lends timeliness to this point. High prices of food are bringing pressure upon families of small means. Adequate food supply comes harder; and in not a few instances is curtailed. Milk seems one of the first articles to be cut down or diminished. With little babies, for whom milk in some form is a necessity, condensed milk or patent food may be substituted more than usually for the seemingly expensive fresh milk. Also, some increase in the employment of women may be expected to occur. Shall we have less breast nursing in consequence of more mothers at work, and of a less adequate food supply for mothers, whether they are at work or not? Shall we face a lessened supply of milk, and the more extended use of substitutes for milk, among the bottle-fed babies? We cannot tell in advance how much these evils will extend or be aggravated by conditions of war-time. We may be reasonably sure that needs and evils of this sort, which have existed in some measure in the past years of peace, will not pass away, but will rather be greater during this period of war, unless special and unusual efforts are made to meet them. Unless the funds available for prenatal and postnatal work can be largely increased so that *all* the mothers and babies who need help can be reached, there should be a *planned selection* of the babies received for postnatal care.

Without doubt the scientific foundation for public health campaigns against infant mortality, tuberculosis and other ills, is the population basis. The total population and also the total number of babies, or other groups affected by the campaign, should be known for each district; the district should be organized with a view to reaching all or as large a proportion of the total as possible; the test constantly applied to the work should be the proportion of cases reached to the total possible cases in the district. Such a plan is now becoming gradually familiar through the development of local health centers in various cities. One of the first steps toward it is reducing the number of different agencies, or more closely coördinating the different agencies which work within a district in related fields, particularly in such closely related fields as prenatal and postnatal work.

When, however, local conditions do not permit of doing infant welfare work on a population basis, or when inadequate funds would compel a few districts only to be covered, then the policy of a carefully planned selection of cases, especially for the postnatal work, should be adopted, as a means of applying effort where it will count for most.

Such a campaign and such conscious selection of cases means a militant rather than a recipient attitude on the part of the organizations doing prenatal or postnatal work with babies. It may mean systematic canvass of districts by nurses. It certainly would be aided by aggressive publicity from a central and authoritative source.

A program for the protection and conservation of infant life must aim to *make it possible for every mother to have prenatal nursing service; for every baby who is delicate or who is bottle-fed, or sickly, to be under the skilled supervision of the doctors and nurses of babies' health stations; for every mother who is nursing a baby to have sufficient food and sufficient milk*

for herself and her child; for every baby who is bottle-fed to have enough and good enough milk at a price which its parents can pay; to enable every mother and father to know where and how these benefits can be obtained at their expense when they can meet it, or free if they cannot. Such a program is vital to the community in peace-time. In war-time it is the same, only raised to a higher power.

Book Reviews.

Health and Disease, their Determining Factors. By Roger I. Lee, M.D., Professor of Hygiene in Harvard University; Visiting Physician, Massachusetts General Hospital. Boston: Little, Brown & Co. 1917.

This new work on personal hygiene, preventive medicine and public sanitation may be regarded as the author's first extensive contribution from the foundation whose professorship he holds. It represents essentially a series of lectures before classes in Harvard University and may be regarded as a summary of the author's teaching in his department. It should constitute, therefore, a textbook of definite value to students, but its field of service will be much wider among physicians, public health workers, and the community at large. It is particularly to be commended for the sanity of its general and specific points of view and for its felicity of phraseology and illustration. To those who know him, the author's personality is pleasantly presented in these pages; and to those who do not, the acquaintance with its wholesome and vigorous common sense will prove one of the desirable attractions of this volume.

Clinical Tuberculosis. By Francis Marion Pottenger, M.D. St. Louis: C. V. Mosby Co. 1917.

This work of Dr. Pottenger's consists of two large volumes, each containing over 700 pages. There are nearly 200 illustrations, charts and plates. The two volumes together weigh over seven pounds and would appear somewhat unnecessarily large and cumbersome. Three, or even four, smaller volumes would have been easier to read and handle.

In reviewing such a book as this, one must first know the purpose for which it was written and the place it is intended to fill. As a textbook, or indeed, a book of reference for the general practitioner, it is hardly available. The information sought for is undoubtedly to be found within its covers, but is to be found only with difficulty, while its size and cost would daunt the average busy doctor. As a reference book for specialists, sanatorium men, and others especially interested in this subject, this book will prove of great value on account of its wealth of detail and references to original sources. It has this great difference from a volume to which various men have contributed articles, in that the book is imbued from cover to cover with the personality of the author. His opinion and his alone, is what one gets in regard to any subject. The references to other investigators are largely from German sources; American, English, and French writers are in the minority.

Dr. Pottenger, as stated in his introduction, has approached his subject from the broadest standpoint. "Anatomy and physiology, both normal and pathological, have been made the basis of my studies; and visceral neurology has received unusual attention. I have endeavored to approach the study of tuberculosis from the standpoint of internal medicine in its broadest sense."

Indeed, it is open to question as to whether or not the subject has not been approached from somewhat too broad a point of view. Over sixty-seven pages are devoted to tuberculosis and the nervous system; forty pages to "compensatory changes in the thorax and abdominal cavities resulting from pulmonary tuberculosis"; forty pages to "fever in tuberculosis," and twenty pages to "psychotherapy." One is greatly impressed and somewhat overwhelmed by the tremendous amount of information in these two volumes, and, likewise, one is tempted to ask whether this information would not do more good if it were in briefer form and more available to those who need it most—the general practitioners.

Nevertheless, this work of Dr. Pottenger's is a remarkable one and one that any student in tuberculosis will do well to secure and to study carefully. To attempt to read these two volumes consecutively would be a well-nigh impossible task; to pick out here and there the countless points of interest and value, a delightful one.

Who Is Insane? By Stephen Smith, A.M., M.D., LL.D., New York: The Macmillan Company. 1916.

The author of this volume was commissioner in lunacy of the State of New York from 1882 to 1888, and evidently was much interested in various phases of the problems of mental disease. This book is not a treatise on insanity, or even a scientific treatment of any single phase of the problems, medical or sociological, which are discussed by the writer, but rather a pleasant, rather discursive chat on a variety of these topics, often suggestive, and always pleasantly written.

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ERNEST GREGORY, *Manager,*

126 Massachusetts Ave., Corner Boylston St., Boston, Massachusetts.

SCHOOL OF INSTRUCTION FOR HEALTH OFFICIALS.

As a part of the campaign of the Committee on Public Health of the Massachusetts Medical Society to stimulate the interest of physicians in the public health and to enable them to bear more efficiently the share of responsibility for the prevention of disease for which their training naturally fits them, comes the announcement of the Convocation and School of Instruction for Massachusetts Health Officials. The convocation is to be held in Boston on the 4th, 5th, 6th and 7th of September, directly under the auspices of the Committee on Public Health, but with the endorsement and coöperation of the State Department of Health and the Massachusetts Association of Boards of Health.

The school will be the first of its kind in Massachusetts, although the plan has been favorably considered by the State Department of Health and by the Massachusetts Association of Boards of Health, and has been used with good results in about half of the states in the Union, but especially in New York and Kansas, where the work has reached its highest development. In brief, it consists of a short course of lectures, demonstrations and clinics, taking up the subjects in the field of public health which are most important from the standpoint of local health authorities. The subjects are those in which every progressive practitioner should take an interest, and will be presented in the most elementary and practical form, but in each case by authorities who are fitted to give the most up-to-date information in their particular lines, and who will be ready to answer questions which may be asked by those who attend the lecture. The Committee appreciates the fact that it is hard for practising physicians to get away, and so has arranged the course with a view to cramming the greatest possible amount of valuable and practical information into a short time, and no time will be spent in receptions, addresses of welcome, or other formalities.

The program is not wholly completed as this number of the JOURNAL goes to press, and, in consequence, cannot be printed here, but advance copies will be mailed to all boards of health in the state, and as far as possible, to all school physicians. Among the features already settled are: a symposium on The Board of Health Laboratory in Towns and Small Cities, to be held on Tuesday afternoon at the laboratory in the town of Arlington; a clinic and discussion of the Diagnosis and Treatment of the Common Contagious Diseases, to be conducted by Dr. Edwin H. Place on Thursday morning at the South Department of the Boston City Hospital; a discussion and clinical demonstration of Minimum Diagnostic Standards for Tuberculosis, Friday morning by Dr. John B. Hawes, 2d, at the Massachusetts General Hospital; and a symposium for school physicians at the Evans Memorial Hall on Thursday afternoon.

The course is free to all members and employees of Boards of Health, whether medical or lay; to school physicians; and to all other physicians who are interested. Owing to the necessity of making especial efforts to conserve the health of the civil population during the war, it is hoped that all who can come will do so. Over 400 preliminary notices were sent out to physicians in the Commonwealth, and up to the time this article was written, about seventy per cent.

of the replies received indicated that the writer expected to attend all or part of the lectures, while twenty per cent. additional said they would come if their municipality would pay their expenses. Since the salaries for municipal service are small and the expense of attending are rather large, even if the loss of time be disregarded, the Governor has issued an appeal to the Mayor or Board of Selectmen of every city or town to pay the expenses of one or more representatives to the convocation. Where this is not possible, it is hoped that the Board of Health may pay the expenses of a representative.

THE SPHERE OF SOCIAL MEDICINE.

No better illustration can be had of the need of attention to the patient, and the possibilities for functional and social reconstruction beyond his discharge from medical or surgical care, than by the excellent work done in Europe in this regard. The question of bringing the wounded and crippled soldier back to life, of training him to useful occupation, has well nigh been solved. At any rate, it has opened a new field in constructive medicine. It is not sufficient to cure or to heal a wounded member of the body unless that member of the body can be restored to usefulness. Any treatment that is undertaken must be undertaken with an eye to its usefulness subsequent to discharge, otherwise the member might better not be saved. The same idea, in a larger way, may be applied to the individual as a whole. It is not enough to cure disease or to alleviate symptoms unless the case is followed up so as to prevent the recurrence of the social conditions at the bottom of so many diseases, and to determine for the individual suitable occupation, which he can do despite any remaining defect, and which is not inimical to his physical or mental constitution. Vocational guidance for the young is an easier problem than vocational guidance for the handicapped, but in the latter is more necessary in order to relieve society of a burden and to make productive those who would otherwise be parasites.

Most institutions have established social service departments. It is for them to prevent returns to the institutions by helping the former patients to rehabilitate themselves. Through them a better understanding of the home and social environment can be had, so necessary in progressive therapeutics. In mental diseases it is now well recognized that the etiological conditions—the psychogenic or social causes—are very largely environmental. Relapses can very largely be prevented by careful follow-up work after discharge, with a view to remedying those environmental conditions which act as psychogenic factors in the causation of mental disturbances. The social medical worker can obtain history as can no one else, and he can act as interpreter of the conditions to the medical attendant, so that less reliance need be placed upon the usually unreliable history given by patients or friends. On the other hand, the social medical worker can interpret to the patient the significance of his condition, so that the natural desire of the patient to know what ails him can be satisfied, and his better coöperation thereby obtained. The human being is a reasoning creature, and is entitled to know the reasons and the wherefores, whenever they can be supplied.

In a far broader sense the sphere of social medicine and of the social medical worker lies in the study of social, industrial and environmental conditions and their relation to disease, and the formulation of such legislation as will lead to the betterment of the people in general in so far as life, health, and usefulness are concerned.

DENTAL INFECTIONS.

In line with the better understanding of the part played by the teeth in the general health, and in the causation of many of the acute and chronic disease conditions, there has grown up, unfortunately, in the popular mind at least, and in the professional as well, a great deal of misapprehension as to the origin and the significance of the dental and peridental infections. This misunderstanding applies particularly to the so-called pyorrhea. The term "pyorrhea" has come to be applied wrongly to any dental condition, whether due to disease or not. Whenever there is found loss of teeth, dental deposit, or probably some recession of the gum, it is called pyorrhea alveolaris of specific amebic origin. The number of cases of dental infection caused by ameba is, at best, very

small when compared to infections from other causes. In any event, the discovery of the ameba is very easily made by intelligent bacteriological examination of all dental infections. Pyorrhea is a symptom—a flowing of pus from the tooth socket, and may be caused by the same organisms as cause infections elsewhere. If the term "pyorrhea" is to be applied at all, it should be applied to inflammations of the tooth joint—to traumatic or septic gingivitis. This infection may be accompanied by detachment of the pericemental fibers. But acute and chronic types of this infection may occur in the dento-alveolar joint as a result of septic emboli and independent of gingival involvement. The infective material may be carried thereto from remote places or from close by—from carious teeth, alveolar process, air passages, tonsil, etc. On the other hand, this dento-alveolar infection, whether of direct or embolic origin, may in turn be the origin, by metastasis, of many acute infections, or even of general septicemia.

Before attempting treatment of purely dental conditions or of diseases elsewhere in the body, of unknown origin, it must be remembered that often bad mouth hygiene, salivary deposits, orthodontic irregularities, imperfect dental work and irritation therefrom, thickened alveolar process, with obstructed and impoverished blood supply, and decayed teeth, are at the bottom of many of them. The amount of pathological change in any case may vary and be out of proportion to the local or general symptoms. The introduction of a dental service in hospitals will serve to clear up many infections of doubtful origin, and will be in keeping with the progress of scientific medicine. As long as there are tangible pathological dental conditions they should be removed before or while instituting other treatment. In such cases it is unscientific to trust to the hypodermic injection of drugs or to vaccines or sera when the clear indications are surgical.

WAR MEETING OF THE AMERICAN PUBLIC HEALTH ASSOCIATION.

A WAR meeting will be held at Washington, D. C., Oct. 17-20, 1917, by the American Public Health Association. This will replace the annual meeting, which was to be held at New Orleans, La., Dec. 4-7, 1917.

The papers and conferences will deal largely with the health problems created by the Great War,—the food supply, communicable diseases among soldiers, war and venereal disease, war and the health of the civil population.

President Wilson has said: "It is not an army we must shape and train for war; it is a nation." Go to the Washington meeting; then come back and do your bit!

Washington will be crowded, and those interested are urged to reserve hotel accommodations at once. It will be easy to cancel reservations, but it may be impossible to obtain rooms at the last moment. Any hotel or railroad can give a list of Washington hotels.

Preliminary programs will be automatically mailed to all members of the American Public Health Association about Sept. 15. Non-members may receive them free by writing to

THE AMERICAN PUBLIC HEALTH ASSOCIATION,
126 Massachusetts Avenue, Boston.

FIRST AID CLASSES OF THE RED CROSS. INSTRUCTORS WANTED.

THE First Aid Division of the Red Cross has sent out copies of the American Red Cross Circular 120, as regards the organization, instruction and examination of first aid classes. Only physicians are called upon to conduct first aid classes of the American Red Cross, and such physicians eventually pass on the proficiency of the candidates for certificates. In order that the Red Cross may appoint qualified physicians to give instructions for these first aid courses, it is desired that as many members of the district medical societies as possible be appointed instructors and examiners. The Bureau of Medical Service of the Red Cross will be glad to furnish applicants with full information describing the work, and will be glad of the assistance of medical men throughout the state. Applications should be made to Major C. H. Connor, Director, The American Red Cross, Washington, D. C.

MEDICAL NOTES.

TUBERCULOSIS STATISTICS.—The Bureau of the Census is planning to prepare and publish a monograph on the Mortality from Tuberculosis,

covering the calendar year 1918. To make this work of greater value, an endeavor is being made to obtain the coöperation of all physicians to the extent of carefully recording or supervising the statements of occupations upon the death certificates during that year. Circular letters to this effect have been sent to all the physicians in the United States.

WAR NOTES.

THE LOBAR PNEUMONIA PROBLEM IN THE ARMY.—In a recent article in the *New York Medical Journal*, Henry J. Nichols, M.D., Major, Medical Corps, U. S. A., describes an epidemic of lobar pneumonia among the 43,000 men belonging to the mobilization camp at El Paso, Texas. The epidemic began in November, 1916, and extended into April, 1917. It reached its highest point in the last of February after the return of the troops from Mexico. Altogether it embraced over 400 cases, and the mortality was 20%.

Determination of the types of pneumococcus began about the middle of the epidemic, and yielded the following result:

TYPE	NUMBER	PER CENT.	PER CENT. MORTALITY FOR ALL KINDS OF TREATMENT
I.	84	56%	14.8%
II.	33	22%	30.0%
III.	3	2%	33.0%
IV.	30	20%	13.3%
	150	100%	

Serum treatment was employed with the following results:

TYPE	CASES TREATED WITH SERUM	DIED	PER CENT.	CASES TREATED WITHOUT SERUM	DIED	PER CENT.
I.	63	5	8.0%	18	7	39%
II.	23	5	21.7%	7	4	57%
III.	3	1	33.0%	0	0	0
IV.	24	4	16.6%	6	0	0

Major Nichols believes that a mixed vaccine of Types I and II should be used in large doses in order to give this possibly important measure a fair trial. He concludes his article as follows:

RECOMMENDATIONS.

"If large camps are maintained during the winter months, preparation to handle epidemic pneumonia should be made: 1. By outfitting a base laboratory with personnel and equipment, agglutination sera, mice, etc., for the determination of types of pneumococci in cases, and when possible, in contacts. 2. By supplying the hospital with reliable serum and proper apparatus for treatment. 3. By vaccinating the command with a pneumococcus I and II vaccine, combined, if indicated, with meningococcus vaccine.

SUMMARY.

1. Epidemic lobar pneumonia is to be expected in large camps in the winter months.
2. The disease is principally due to Types I and II.
3. Serum treatment has produced excellent results in reducing mortality.
4. Direct evidence of tent, company, and regimental contagion has been obtained.
5. Vaccination is considered a more promising measure of prevention than isolation."

EXEMPTION OF MEDICAL STUDENTS.—At a meeting of the Mayor's Committee on Hospital and Medical Facilities, held at City Hall, New York City, on August 15, 1917, the following resolution was unanimously adopted:

Resolved, That the Mayor's Committee on Hospital and Medical Facilities calls the attention of the Secretary of War to the serious consequences to the civilian population of the country, and to the maintenance and operation of the hospitals, of the inclusion of medical students and hospital interns under the act for Selective Service.

Further Resolved, That the Chairman be directed to lay the views of this Committee before the proper officials of the Government and the District Boards of the state of New York, and to take the necessary steps to bring about the temporary exemption of these students and interns in order to secure a constant supply of medical men to the army throughout the war, and to prevent the embarrassment of hospitals, and the consequent serious results to the population of the United States.

The following-named hospitals were represented at the meeting: New York Hospital, Presbyterian Hospital, Manhattan Eye, Ear and Throat Hospital, Lebanon Hospital, Mt. Sinai Hospital, Brooklyn Jewish Hospital, Long Island College Hospital, Brooklyn Hospital, Italian Hospital, French Hospital, Columbia University, Roosevelt Hospital, St. Luke's Hospital, Post Graduate Hospital, Swedish Hospital, St. Francis Hospital, Lincoln Hospital, German Hospital of Brooklyn, Columbus Hospital, Staten Island Hospital, Polyclinic Hospital, New York Orthopedic Hospital, Hospital for Deformities and Joint Diseases, Metropolitan Hospital, King's County Hospital, Bellevue Hospital, City Hospital, Willard Parker Hospital, Kingston Avenue Hospital, Riverside Hospital, Montefiore Home, United States Naval Hospital.

DRAFT OF MEDICAL MEN.—It is estimated that 144,000 men, of whom 24,000 must be trained physicians and the other 120,000 enlisted men, are required for service in the Medical Corps of the army. Half this number will be wanted by October 1. Two out of every nine physicians of military age, 22 to 55 years, in the United States and her possessions, will be called upon for war

service. A system of selection is under organization, in order that, should the number of enlistments fall below the requirements, adequate forces of medical officers and enlisted men may be provided to insure a sufficiency of trained men to care for American troops at home and abroad. The first 12,000 men are available, and as fast as accommodations are provided they are going into training,—at the rate of 200 a day. The training camps are at Fort Riley, Kansas, Fort Benjamin Harrison, Indiana and Fort Oglethorpe, Georgia. Each camp has a capacity of 1000 medical officers and 1800 enlisted men, and includes, besides, four ambulance companies, four field hospitals, and one evacuation hospital. A fourth camp, of 550 men, is located at Fort Des Moines, and is for the training of colored medical officers and colored sanitary detachments to serve with colored troops. The ambulance service camp at Allentown, Pa., has about 4500 officers and men under training.

Massachusetts has sent between 400 and 450 doctors, who are for the most part being trained at Fort Benjamin Harrison. More men are needed from this section. Dr. H. D. Arnold of Boston has been commissioned major in the Reserve Medical Corps, and examines and certifies applicants for commissions in the corps, at Harvard Medical School.

PORTABLE HOSPITAL UNIT.—The Massachusetts State Guard has adopted a portable hospital unit designed by its chief surgeon, Dr. William A. Brooks. It consists of four buildings—an operating room, a ward room, a kitchen, and a staff headquarters. The buildings can be easily erected, and can be dissembled, packed and transported in a short space of time, obviating the necessity of moving injured persons over distances to available hospitals. The unit has a complete equipment of hospital appliances, and can accommodate 125 patients. The staff includes the following:

Surgeons, Donald V. Baker, Brookline; William E. Broome, Boston; Harold G. Giddings, Allston; George W. Morse, Boston; Russell F. Sheldon, Boston; Benjamin E. Sibley, Brookline; and Edward A. Supple, Boston.

Physicians, John W. Dewis, Boston; and Thomas F. Harrington, Boston. Nose and throat diseases, George L. Tobey, Jr., Boston; and D. Harold Walker, Boston. Dental surgeon, Kurt H. Thoma, Boston. Roentgenologist, Ralph P. Leonard, Boston. Ophthalmic surgeons, Robert G. Loring, Boston; P. Smyth, Boston. Orthopedic surgeon, W. Russell MacAusland, Boston.

TRANSFER OF AMERICAN AMBULANCE.—The formal transfer of the American Ambulance at Neuilly, Paris, to the United States Government took place on July 22. The ceremony was held in a large ward of the hospital. It was attended by William Grave Sharp, the American ambassador; M. Godard, under secretary for war; Dr. Bouché, chief surgeon; Mrs. William K. Vanderbilt; and Colonel A. E. Bradley of the Medical Corps, U. S. A. M. Godard, in an appreciative address, requested that he be given the American flag flying over the Hospital, to place in the War Museum of France. Maj. George P. Reed of the Medical Corps, U. S. A., will be in charge of the hospital, and has requested the heads of departments and their staffs to remain on duty at the Ambulance.

ROOSEVELT HOSPITAL UNIT.—Red Cross Base Hospital No. 15, which was recruited from the Roosevelt Hospital, New York, is to be financed by Mrs. John W. Mackay and her son, Clarence H. Mackay. Miss Ellen and Miss Katherine Mackay, daughters of Mr. Clarence Mackay, presented to the unit, before it sailed for foreign service, a large American flag. The nursing staff is under the personal supervision of Mary L. Francis, formerly assistant director of nurses at Roosevelt Hospital.

RED CROSS COMMISSION TO ITALY.—It is announced that a commission will be sent to Italy by the American Red Cross, to learn conditions in that country, and institute measures which will most adequately provide for the needs of the soldier and the civilian population of Italy. The commission will consist of the following men: George F. Baker, Jr., vice-president of the First National Bank of New York City; John R. Morron, president of the Atlas Portland Cement Company; Dr. Thomas W. Huntington, president of the American Surgical Association; Dr. Victor G. Heiser of the United States Public Health Service; and Nicholas F. Brady, Central Trust Company, New York. Accompanying the commission is Chandler R. Post, professor of Greek and fine arts at Harvard University, and one of the leading authorities in this country on Italy.

RED CROSS ROUMANIAN COMMISSION.—Members of the unit which the Red Cross is to send to Roumania include the following men: Henry W. Anderson of Richmond, Va., will head the mission. Other members include Arthur G. Glasgow of Washington, Dr. Francis W. Peabody of Boston, Dr. Roger Griswold Perkins of Western Reserve University, Cleveland; Dr. Robert C. Bryan of Richmond, Va.; Bernard Flexner, well-known lawyer of Chicago, and Dr. Gideon Wells of the University of Chicago Medical School. Dr. Peabody, who is resident physician at the Peter Bent Brigham Hospital, was graduated from the Harvard Medical School in 1907. In 1914 he was chosen a member of the China Medical Board of the Rockefeller Foundation and spent several months in China investigating medical education in that country.

NURSES FOR THE ARMY.—The shortage of nurses on the west European front and the great need of a sufficient number to care for American troops, beside attending to the usual needs at home, has caused the nursing committee of the Council of National Defense to issue an appeal all over the country, urging young women to train themselves for nurses. In Massachusetts, Miss Mary Beard, of the Instructive District Nursing Association, has sent word to the deans and graduates of colleges, technical and high schools throughout the State, urging young women to enroll as nursing students and asking institutions to prepare to receive the increase. The general committee has also advised all nursing organizations to take a census of all nurses, graduates, attendants, aids, and the partly trained.

SELECTIVE MEDICAL DRAFT.—It is reported that a petition sent from the Council of National Defense in Washington is being circulated, asking that Congress provide a selective draft of American doctors for military service and pleading for the exemption of *bona fide* medical men from the provisions of the present draft law. This is asked in fairness to the medical profession and in behalf of the welfare of the nation.

APPROPRIATION FOR HOSPITALS.—It is announced from Washington that $14,500,000 will be spent in constructing thirty-two new army hospitals to be used in caring for the men in training in military camps. There will be nearly 400,000 men in the National Guard camps, and 500,000 in the National Army cantonments, an army of nearly 1,000,000, exclusive of the regular army of the United States.

MEDICAL OFFICERS' RESERVE CORPS.—Report from the War Department, Washington, on Aug. 4, announced the following New England appointments to the Medical and Dental Officers' Reserve Corps. All will be commissioned as first lieutenants.

Medical Corps. —John Jacob Custerhout, Keene, N. H.; John David Thomas, Burlington, Vt.; William Stickney, Rutland, Vt.; James Hamilton, Jr., Providence; Edward Silvanus Ward, North Attleboro; Herbert Bancroft Priest, Ayer; George Albert Russell, Arlington, Vt.; William Aloysius Malvery, Providence; Thomas Rice, Brattleboro, Vt.; John Frank Streeter, Springfield; Roger William Schofield, Worcester; William Francis Ryan, Lowell; Leon Stanley Lippincott, Brunswick, Me.; John Albert Sullivan, Pittsfield; Henry Albert Schneider, Pittsfield; James Madison Woodard, Salem; Melvin Harvey Walker, Jr., Pittsfield; James McFayden, Milo, Me.; Victor Anthony Aimone, Winchester; Louis Joseph Ullian, Boston; John Bishop Warden, Whitefield, N. H.; Harry Philip Casill, Boston; Louis Herbert Limaure, Lynn; Carl Thorburn Harris, Boston; Preston W. Whitaker, Unity, Me.; Frederick Leslie Gregory, Caribou, Me.; Joseph Michael Scanlon, Lawrence; Winfred Oren Brown, Littleton, N. H.; Frank Herbert Jordan, South Portland, Me.; George Roberts, Chester, Vt.; Andrew James McGraw, Taunton; Herbert Charles Scribner, Bangor, Me.; Ralph Miller Chambers, Westboro; William Phillips Bernard, Central Falls, R. I.; John Paul Jones, Wakefield, R. I.; Wilfrid Francis Milot, Attleboro; Bernard Andrew Bailey, Wiscasset, Me.

Dental Corps.—Walter Herbert Richardson, Worcester; Joseph Edward Cheney, Fitchburg; George Christman, Cambridge; Frederick Henry Winship, Jr., New Bedford; Edmund Martin Webb, Attleboro; Ralph B. Putnam, Portland; Harold Lee Peacock, Boston; Theodore Edward Lafayette, Jr., Watertown; Stanley Clifford Keene, Roslindale; Frederick Wilbur Day, Gardiner, Me.; Edward John Donovan, Wakefield; Frank A. Willis, Manchester; Edwin C. Baker, Roslindale; William F. Lynch, Somerset; Wilbur Arthur Charron, Ware; Clarence Simon O'Keefe, Taunton; James E. Cox, Charlestown.

OFFER OF CHARLESTOWN MEDICAL SOCIETY.—The Charlestown Medical Society has offered its services to the Government in examining recruits, without remuneration, if desired.

MEDICAL RESERVE TO BE CALLED.—It is expected that the enlisted Medical Reserve Corps will be called to go into training within a few days. This will apply to the field hospital and ambulance companies and the unattached personnel of the reserve. The camp will be at Fort Ethan Allen, Vt.

APPOINTMENTS OF NAVY DENTAL SURGEONS.—Philip S. McGann of Somerville, Mass., and Joseph A. Tartre of Portsmouth, N. H., have been given probationary appointments as dental surgeons in the Navy.

MENTAL TESTS FOR SOLDIERS.—A corps of one hundred and fifty neurologists and psychiatrists has been organized to examine all men under training at the army cantonments. In this way a man presenting any organic nervous disease, any mental defect, or a tendency to insanity, or who is addicted to drugs or alcohol, will be exempted from service. It is thus expected to eliminate from the fighting ranks of the army the men nervously and mentally unfit for the type of warfare necessary in the present conflict.

WAR RELIEF FUNDS.—On Aug. 25 the totals of the principal New England war relief funds reached the following amounts:

French Wounded Fund	$248,669.12
Armenian Fund	217,392.56
Surgical Dressings Fund	120,503.01
French Orphanage Fund	117,656.38
Polish Fund	77,984.95
Italian Fund	44,157.72
French Refugees' Fund	25,059.99

Of these, 4 were isolated cases and the remaining 48 were connected with one outbreak.

BOSTON AND MASSACHUSETTS.

WEEK'S DEATH RATE IN BOSTON.—During the week ending Aug. 18, 1917, the number of deaths reported was 173, against 222 last year, with a rate of 11.68, against 15.22 last year. There were 34 deaths under one year of age, against 53 last year.

The number of cases of principal reportable diseases were: diphtheria, 60; scarlet fever, 8; measles, 14; whooping cough, 34; typhoid fever, 7; tuberculosis, 52.

Included in the above were the following cases of non-residents: diphtheria, 3; scarlet fever, 1; measles, 1; whooping cough, 1; typhoid fever, 2; tuberculosis, 6.

Total deaths from these diseases were: diphtheria, 4; scarlet fever, 1; tuberculosis, 13; whooping cough, 2.

Included in the above was 1 non-resident death from tuberculosis.

MASSACHUSETTS ASSOCIATION OF BOARDS OF HEALTH.—A regular quarterly meeting of the Massachusetts Association of Boards of Health was held recently at Pemberton, Mass. Dr. John F. Hitchcock was in the chair. Fred R. Johnson, secretary of the civilian relief committee of the Boston Metropolitan Chapter of the American Red Cross, read a paper on "The Red Cross in Relief in Civilian Communities." Dr. Charles E. Simpson, visiting health officer of the State Department of Health, read a paper on "Large Concentration Camps and Their Relations to Civilian Communities," referring to the army camps at Ayer and Framingham.

APPOINTMENT.

S. R. KLEIN, M.D., PH.D., formerly director of the Research and Experimental Laboratory at Norwich, Conn., and Professor of Histology and Embryology at Fordham University Medical School, has been appointed Assistant Superintendent, Pathologist and Roentgenologist to the Waldheim East Sanatorium and Polyclinic, Oconomowoc, Wisconsin.

RECENT DEATHS.

LORENZO WAIT COLE, M.D., 65, died at his home in South Deerfield, Mass., Aug. 8, 1917, of bronchial pneumonia. Dr. Cole was born in Pittsfield, Dec. 19, 1851, and was the son of Dr. and Mrs. Harvey Cole. He was educated in the Pittsfield schools and in New York Medical College. He first practiced medicine in New York, near Albany, and in 1887 moved to Springfield, where he was a practicing physician for some years. Ten years ago he came to South Deerfield. Dr. Cole was married in Guilderland, N. Y., to Miss Carrie Hammett of Montpelier, Vt., June 30, 1873. Mrs. Cole survives him.

ISADORE HERMANIGILDE CHICOINE, M.D., died at his home in Lynn, Aug. 8, 1917, aged 52 years. Dr. Chicoine was a graduate of the Harvard Medical School in the Class of 1894, and had been a prominent practitioner of Lynn since he settled there in 1895 and joined the Massachusetts Medical Society.

The Massachusetts Medical Society.

NOTES FROM THE DISTRICT SOCIETIES.

DISTRICT CORRESPONDENTS.

Berkshire, A. P. MERRILL, M.D., Pittsfield.
Bristol North, ARTHUR R. CRANDELL, M.D., Taunton.
Bristol South, EDWIN D. GARDNER, M.D., New Bedford.
Essex North, T. N. STONE, M.D., Haverhill.
Essex South, H. P. BENNETT, M.D., Lynn.
Hampden, LAURENCE D. CHAPIN, M.D., Springfield.
Hampshire, E. E. THOMAS, M.D., Northampton.

BRISTOL SOUTH.—Drs. Erik St. J. Johnson, Frank E. Stetson, and William C. Sheehy have been appointed captains in the Medical Reserve Corps. Dr. C. E. Burt is at present training at Fort Benjamin Harrison, with the rank of first lieutenant. Dr. R. G. Provost has received his commission as first lieutenant, as have Dr. W. K. Turner, Dr. Frank W. Mathewson, Dr. William A. Moncrieff, and, I believe, Dr. A. de C. E. La Riviere. Others have taken the examination but have not received their commissions.

Just at present there is more or less talk about the new City Hospital. Trustees have been appointed, among them Dr. H. C. Kirby, who is the only trustee, I believe, who is a member of the Massachusetts Medical Society. A site of land has been bought, but that is as far as the project has gone. Dr. H. D. Prescott, who went to Saranac Lake something over a year ago, is reported as doing extremely well.

EDWIN D. GARDNER, *Reporter*.

Miscellany.

RÉSUMÉ OF COMMUNICABLE DISEASES IN MASSACHUSETTS FOR JULY, 1917.

GENERAL PREVALENCE.

THE month of July was marked by a lack of epidemics of communicable diseases. There were 4601 cases of communicable diseases reported; a considerable decrease as compared with 10,214 cases in the preceding month and 5464 in July, 1916.

The most noticeable drop, in comparison with June, was in measles, which showed a decrease from 3785 cases to 1347 cases. The only significant increase was in pulmonary tuberculosis. This increase has now been steady since February, when 658 cases were reported.

Poliomyelitis.—There were 38 cases of poliomyelitis reported during the month. These were distributed in the district east of the Connecticut River and north of Brockton. The cases as a whole were distributed evenly in this

section, except 10 cases which occurred in Haverhill and 5 in Lynn. No cases were reported in the Berkshires or in the Cape Cod district.

Smallpox.—One case of smallpox was reported from Worcester. The conditions are such that the outbreak of the disease in this city is apparently ended.

Typhoid Fever.—As compared with July, 1916, the State shows a decrease—109 cases this year, as against 128 cases for July last year. The total of the cases this year is slightly below the seasonal average. Of the 109 cases reported, 51 have been carefully investigated and show that 9 are due to contact with other cases, 5 are apparently due to eating raw shellfish, 2 from drinking polluted water. In 35, sources of infection could not be determined.

Diseases on the Premises of Milk Handlers.—One case of typhoid fever occurred in a family of a milk handler, and 5 milk farms were reported as having communicable diseases on their premises. Of the 5 farms, 3 had scarlet fever present in members of the family, and the other 2 farms had cases of septic sore throat on them. Suitable arrangements were made in 4 of the cases on the farms, so that the selling of milk was allowed to continue. On one farm where scarlet fever was present, due to the fact that the parents would not permit the child to go to a hospital, the milk supply was stopped for a few weeks until the local board of health regulations were followed.

EPIDEMICS AND OUTBREAKS.

Septic Sore Throat.—An epidemic of over 100 cases of septic sore throat, due to a hemolytic streptococcus, began during the last few days of the month in Wellesley, Natick and Dover. At the present time it is too early to state definitely the cause of this epidemic, but investigations are under way to determine the cause and to check its course.

Scarlet Fever.—An outbreak of 4 cases of scarlet fever occurred in the Medfield State Hospital as the result of a light unrecognized case of the disease. The cases were at once isolated, and the outbreak ceased.

Measles.—An epidemic of 53 cases of measles occurred at Westminster. Investigation showed that no physicians were called by many of the parents until the disease was well developed in their children, and thus no attempt was made to isolate the cases until it was widely spread throughout the community.

SMALLPOX IN MASSACHUSETTS.

There have been 52 cases of smallpox in the State during the first seven months of the year. Of these, 4 were isolated cases and the remaining 48 were connected with one outbreak.

The isolated cases were reported from Lee, Boston, Bernardston and Blackstone. The Lee case in January was apparently connected with the November, 1916, epidemic in that town, when 18 cases were reported. Of the 2 cases in February, one, in Bernardston, was a person just arrived ill from Iowa, and the other case, in Boston, was an individual from Connecticut, who was infected in that State. The Blackstone case was reported in June, and the source of infection was not found. The Boston and Bernardston cases had never been vaccinated, while the Lee and Blackstone cases were vaccinated in 1905.

The outbreak of 48 cases was centered in Worcester and started in January, when a Finnish immigrant arrived in the city from New York on January 4, apparently bringing the infection from a ship from Sweden on which smallpox was present. The first case was a fellow countryman, who lived in the boarding house to which the immigrant came.

Of these 48 cases, 9 died—a fatality rate of 18.7%, much higher than the usual type of disease prevailing in New England; at once suggesting, on its appearance, a new strain of the disease.

Of the 9 who died, 5 had never been vaccinated, 3 were vaccinated in childhood, from 20 to 60 years previously, and no history was obtained for one case.

Of the 39 cases that recovered, 17 were never vaccinated, 19 were vaccinated more than seven years previously, and 3 were vaccinated within seven years.

There were also 3 cases connected with the Worcester outbreak reported from Albany County, New York, by the New York State Department of Health, one of which was fatal. Of the 3 cases, none had been vaccinated.

In March, 5 cases were reported, and in April 5 cases. On April 26, a moulder, in the eruptive stage of the disease, attended a meeting of the local union, and 12 men attending the meeting later had smallpox.

Moulders from Fitchburg, Shrewsbury and Webster attended the meeting, and 4 cases in Fitchburg, and 3 each in Shrewsbury and Webster followed, making a total of 48 cases for the outbreak.

On the appearance of the outbreak, the Worcester Board of Health took rigid measures, isolating all cases in the city and in Shrewsbury, followed up by a house-to-house canvass of suspected cases and vaccination of all persons who might have come in contact with cases or infected material.

The last case appeared July 24, and the outbreak is apparently ended.

RARE DISEASES.

Anterior Poliomyelitis was reported from Beverly 2, Brockton 1, Groton 1, Groveland 3, Hadley 1, Haverhill 10, Lawrence 2, Lowell 3, Lynn

5, Malden 1, Medford 1, Quincy 1, Salem 1, Saugus 2, Springfield 2, Weymouth 1, and Worcester 1.

Cerebrospinal Meningitis was reported from Attleboro 1, Boston 4, Everett 1, Brockton 1, Haverhill 2, Malden 1, New Bedford 2, Northampton 1, and Pittsfield 3.

Dog-bite was reported from Attleboro 2, Dartmouth 2, Fall River 1, Medford 1, Northampton 1, Sunderland 1, and Worcester 1.

Dysentery was reported from Boston 7 and Holyoke 1.

Malaria was reported from Boston 6, Chicopee 2, Dedham 2, and Natick 1.

Pellagra was reported from Natick 1 and Milford 1.

Septic Sore Throat was reported from Arlington 2, Barnstable 2, Boston 1, Brookline 1, Cambridge 1, Dedham 2, Medford 1, Natick 12, Newton 1, Somerville 1, Springfield 1, and Swampscott 1.

Smallpox was reported from Worcester 1.

Tetanus was reported from Boston 1 and Gardner 1.

Trachoma was reported from Boston 1, Chelsea 2, Lynn 1, and Worcester 1.

PREVENTABLE DISEASE.

COMPLETE refutation of the claim that the Government does not concern itself with the loss from preventable disease is contained in the annual report of the Surgeon-General of the Public Health Service, recently submitted to Congress. Activities ranging from the prevention and cure of blindness, scientific studies of pellagra, the protection of the health of industrial workers, the prevention of the introduction of typhus fever, investigations of child labor and health insurance, the eradication of communicable diseases, and the control of the pollution of navigable streams, are recorded, and demonstrate conclusively that the national government is vitally concerned in the health of its citizens.

The most striking achievement of the year relates to pellagra, an affliction which in certain States destroys more lives than tuberculosis. Pellagra is no longer a disease of mystery, as the Public Health Service has clearly shown that it is caused by a restricted diet, and that it may be prevented and cured by means of a properly balanced ration. The practical application of this knowledge has already resulted in a material reduction in the prevalence of this affliction in all parts of the country, and it is confidently believed that in another year even more marked improvement will be observed.

In the eradication of trachoma marked success has been obtained. The methods followed—the converting of private residences into small hospitals and the holding of free open-air clinics—have been adopted by the Egyptian government. During the year 1700 persons were operated upon for the relief of partial or complete blindness, nearly 2000 received hospital treatment, while more than 19,000 were treated at hospital dispensaries and clinics. When it is realized that a large proportion of these people were doomed to years of suffering, terminating in at least partial blindness, and that they have been restored to lives of usefulness, in some instances even being taken from county poorhouses, where they had been public charges for the greater portion of their days, the importance of this most beneficent work can be imagined. The total cost of this undertaking, including the remodeling of buildings and every expense in connection with the feeding and care of patients, was less than $39,000 for the year.

Increased interest was shown by the government in the health of rural dwellers, and Congress has recognized, by making an appropriation for studies in rural sanitation, that the welfare of the country resident is not to be neglected. During the past three years 80,270 homes in 15 different counties of 13 states were visited and complete sanitary surveys made of the premises. In every instance definite recommendations were given to remedy such evils as existed, as, for example, the pollution of wells, the presence of disease-bearing insects, and the improper disposal of excreta. In addition, 22,234 homes were revisited, mostly at the request of the owners, in order that the government agents could inspect the improvements instituted. Wherever this method of bringing the lessons of sanitation directly to the rural dweller has been followed, a marked reduction has been observed in the prevalence of typhoid fever, hookworm, malaria, and other preventable diseases.

Attention has also been given to the health of the children of the nation, more especially to rural school children. Over 32,000 children attending the public schools were examined during the year in order to determine their mental status, and the causes and percentage of mental retardation and deficiency. In addition, 7000 physical examinations were completed for the determination of physical defects.

The health of industrial workers has been safeguarded to a greater extent than at any time in the past. Studies have been made of the occupational hazards of steel workers in many of the leading industrial establishments of the country, and unsanitary and harmful conditions corrected. In the zinc mines of Missouri methods have been adopted which should go far toward eradicating tuberculosis from that district. Investigations of child labor and of health insurance have also been made.

What is regarded as the largest and most important single undertaking of this nature yet inaugurated, the investigation of the pollution of the Ohio river, is still in progress. Surveys of the Atlantic coast and New England watersheds

have, however, been completed, and the extent and effects of their pollution are now known: this knowledge demonstrates that Federal legislation, to prevent the contamination of water sources, is a necessity.

Better provision for the health of travelers has been obtained by safeguarding the water supplies of common carriers, and through the promulgation of regulations governing the transportation of persons suffering from communicable diseases.

Energetic efforts have been made to prevent the introduction of all communicable diseases and to control those already present. Typhus fever has been combated at all points on the Mexican border, and disinfection plants established, where the clothing and persons of all incoming aliens have been disinfected. At one station alone—El Paso, Texas—26,000 persons were inspected and treated in such a manner as to insure their freedom from this highly fatal infection.

Plague eradicative measures at New Orleans have been continued. Over 371,000 rodents, the carriers of plague infection, were either trapped or killed, and more than 100,000 were carefully examined. No human case of the disease has occurred during the year. Measures for the control of typhoid fever, Rocky Mountain spotted fever, malaria and other infections have been continued as heretofore, and the results obtained have been most gratifying.

In only a single field,—the medical inspection of immigrants,—has the work of the Public Health Service shown any diminution during the year, but this has been compensated for by the more thorough examination accorded. 481,270 aliens were examined for the purpose of determining physical and mental defects. Of these, 16,327 were certified for deportation, proportionately a greater number than has ever been recorded. The percentage of mental defectives certified is also steadily increasing.

At the marine hospitals and relief stations of the service, approximately 9,000 beneficiaries received medical or surgical treatment, a number greater by 10,000 than for any previous year.

CANCER DECALOGUE PREPARED BY THE STANDING COMMITTEE ON THE CONTROL OF CANCER OF THE MASSACHUSETTS MEDICAL SOCIETY.

1. The classical signs of cancer are the signs of its incurable stages. Do not wait for the classical signs.

2. Early cancer causes no pain. Its symtoms are not distinctive, but should arouse suspicion. Confirm or overthrow this suspicion immediately by a thorough examination and, if necessary, by operation. The advice, "Do not trouble that lump unless it troubles you," has cost countless lives.

3. There is no sharp line between the benign and the malignant. Many benign new growths become malignant and should, therefore, be removed without delay. All specimens should be examined microscopically to confirm the clinical diagnosis.

4. Precancerous stage. Chronic irritation is a source of cancer. The site and the cause of any chronic irritation should be removed. All erosions, ulcerations, and indurations of a chronic character should be *excised*. They are likely to become cancer.

5. Early cancer is usually curable by radical operation. The early operation is the effective one. Do not perform less radical operations on favorable cases than you do on unfavorable ones. The chances for a permanent cure are proportionate to the extent of the first operation. Make wide dissections; incision into cancer tissue in the wound defeats the object of the operation and leads to certain local recurrence.

6. Late cancer is incurable, though not always unrelievable. Radium, x-rays, ligation, cautery, or palliative operations may change distress to comfort and may even prolong life.

7. Cancer of the breast. All chronic lumps in the breast should be removed without delay. Benign tumors can be removed without mutilation. Examine all specimens microscopically. An *immediate* microscopical examination is desirable since, if positive, it permits a radical operation at the same sitting. A radical operation performed ten days after an exploration is almost never successful in curing cancer of the breast.

8. Cancer of the uterus. Any irregular flowing demands thorough investigation. Offensive or even very slight serous flows are especially suspicious. Curette and examine microscopically. Amputate all eroded cervices which do not yield promptly to treatment. Do not wait for a positive diagnosis.

9. Cancer of the digestive system is difficult of early diagnosis, and therefore unfavorable in prognosis. All persistent and recurring indigestions (more especially if attended by change of color and loss of weight) and any bleeding or offensive discharges demand prompt and thorough investigation. Do not wait for a positive diagnosis.

10. Cancer of the skin. Any warts, moles, or birthmarks which enlarge, change color, or become irritated, should be removed promptly. They are likely to become cancer. Do not wait for a positive diagnosis.

BACTERIOLOGY AT THE FRONT.

BACTERIOLOGICAL investigation in hospitals of the front line has been a novel feature of this war. Nothing of the kind has been practised in any of our previous campaigns. It has been rendered possible by equipping motor vans as mobile laboratories. The first, which was sent out in October, 1914, had been a pleasure caravan. It was gutted and fitted with incubators and all the other apparatus of bacteriological work, and was followed by many others of the same type. They have been attached to a clearing station or a group of clearing stations, and the officer in charge is provided with a small motor car, so that he can go to any place in his area where his services may be wanted.

These officers perform three functions:

1. They examine all kinds of morbid products from the hospital wards, and thus aid in the diagnosis of enteric fevers and other epidemic diseases on the medical side, and of the various forms of infection that attack surgical wounds.

2. They examine contacts in cases of infectious fever and search for carriers, both among the troops and in the civil population.

3. They investigate new forms of disease that appear among the troops, in order to discover their causes and the means of prevention.

Instances of the first class of work are the examinations made of the blood and excreta in cases suspected of enteric fever, of malaria, or of dysentery, and of the cerebrospinal fluid, or the nasal mucus where cerebrospinal fever is in question.

The next function of these officers is to discover the source of an infection, and to stop it from spreading. In cases of enteric fever, the work was very elaborate. In the first place, a systematic search was made for recent or chronic carriers among the troops. Thus, in one regiment a carrier was discovered in the regimental kitchen. In another, which had lately received enforcements, no less than 95 men had to be examined before the carrier was found. But the source of infection was not always in the troops. The part of Flanders that we held was a hotbed of enteric fever, and many cases were found in the civil population. The search for these was very difficult. In one village cases of enteric fever occurred in three successive formations that were billeted there.

The conditions of warfare made it far less possible to obtain contacts of cerebrospinal fever at the front, where men are constantly moving, than it is at home where a man may be stationary for weeks.

As instances of the examination of new or little known forms of disease, I may mention trench fever, investigated by Captain McNee; spirochetal fever by Captain Adrian Stokes; gas gangrene, and the histology of the prevalent nephritis, by Lieutenant Dunn.—Sir W. P. Herringham, C.B., M.D., *British Medical Journal*, June 23, 1917.

Correspondence.

CONCERNING CERTAIN MEDICAL ADVERTISEMENTS.

New York, August 15, 1917.

Mr. Editor:—

Permit me to call your attention to the new law relating to certain medical advertisements, which was enacted at the last session of the New York State Legislature. The passage of this law was prompted by the fact that the misrepresentation practiced by quacks and unscrupulous nostrum manufacturers constituted one of the chief obstacles encountered by health authorities in dealing with venereal diseases. Much of this misrepresentation appears in the advertisements still carried by certain newspapers and periodicals published in this city.

"1142-a. Advertisements relating to certain diseases prohibited. Whoever publishes, delivers or distributes or causes to be published, delivered or distributed in any manner whatsoever an advertisement concerning a venereal disease, lost manhood, lost vitality, impotency, sexual weakness, seminal emissions, varicocele, self-abuse or excessive sexual indulgences and calling attention to a medicine, article or preparation that may be used therefor or to a person or persons from whom or an office or place at which information, treatment or advice relating to such disease, infirmity, habit or condition may be obtained, is guilty of a misdemeanor and upon conviction thereof shall be punished by imprisonment for not more than six months, or by a fine of not less than fifty dollars nor more than five hundred dollars, or by both such fine and imprisonment. This section, however, shall not apply to didactic or scientific treatises which do not advertise or call attention to any person or persons from whom or any office or place at which information, treatment or advice may be obtained, nor shall it apply to advertisements or notices issued by an incorporated hospital or a licensed dispensary or by a municipal board or department of health or by the department of health of the State of New York."

You will observe that the law applies both to the advertiser ("who causes to be published") and to the publisher of this class of advertisements. The new law goes into effect Sept. 1st, 1917.

Very truly yours,

CHARLES BOLDUAN,
Director, Bureau of Public Health Education.

END OF A FAMOUS NEUROTIC IN-BRED LINE.

Boston, August 9, 1917.

Mr. Editor:—

Lord Byron's line would not have died out, under ordinary circumstances, apparently without notice in either hemisphere. Even now, the subject is worth enlarging upon by some psychopathologist, and the hope of inducing this, causes the present note. Baroness Wentworth (peeress in her own right) died childless on June 18th, the greatgranddaughter of Lord and Lady Byron; the latter was a hereditary hysteric, and the former came of a strain whose mental instability had been intensified by an extraordinary number of cousin-marriages. One of the closer connections was aired by Mrs. H. B. Stowe, with manifold indiscretion, fifty years ago, but recently has been handled deftly by Miss Mayne. When one considers that Lord Byron, a typical only child, surrounded by such, and by superstition, came of stocks psychopathic on both sides, and lived in a hectic society, the wonder grows, not that he did not behave better, but that he could behave at all.

ALFRED ELA.